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[SECOND EDITION.]

# ASEPTOLIN.

A FORMULATED  
TREATMENT FOR TUBERCULOSIS,  
SEPTICÆMIA, MALARIA AND LA GRIPPE,  
WITH REPORTS OF CASES.

BY  
CYRUS EDSON, M. D.

PUBLISHED BY THE  
EQUITABLE CHEMICAL CO.,  
NO. 30 READE STREET,  
NEW YORK CITY.

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[SECOND EDITION.]

# ASEPTOLIN.

## FOR REVIEW.

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NEW YORK CITY.

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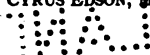
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PUBLISHED BY THE  
EQUITABLE CHEMICAL CO.,  
NO. 80 READE STREET,  
NEW YORK CITY.

JERSEY CITY, N. J.  
JERSEY CITY PRINTING COMPANY,  
37 MONTGOMERY STREET,  
1896.

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A RATIONAL TREATMENT  
FOR  
PHTHISIS PULMONALIS,  
TOGETHER WITH  
SOME NOTES ON A NEW REMEDIAL SOLUTION.

By CYRUS EDSON, M. D.

NEW YORK, N. Y.

During a study of phenol, made in the early part of 1895, I was very much struck by the observations of Stadler, Merck, Brieger, Salkowski and others. These investigators declared Phenol could be found in the urine of man, the horse and the cow (1).

According to Merck, healthy urine from a mixed diet contains 0.004 grms. of phenol per litre, and according to Salkowski, under pathological conditions, it may rise as high as 1.5575 grms.—in other words, during health, phenol is a normal constituent of the urine (2), and during disease the amount present is enormously increased (3).

1. Am. Chem. Pharm. LXVII. 360,

2. Phenol occurs in the urine as the potassium salt of the unstable phenyl-sulphuric acid, and for this reason can only be detected by distillation with hydrochloric acid (see Ber. Deutsch. Chem. Ges., IX. 1595-1596). According to Brieger, phenol is also found in small quantities in excrement. (Jour. Prakt. Chem. (2), XVII, 133).

3. Brieger found increase of phenol in urine during scarlatina, erysipelas, etc. (Hoppe-Seylers' Zeitschr. IV. 204.)

According to Wohler the preputial glands in the beaver secrete a substance known as castoreum which is found to contain small quantities of phenol. (see Am. Chem. Pharm. CXVII., 360.)

It has also been demonstrated by Baumann that when albuminoid bodies are allowed to putrefy in the presence of some water and pancreas phenol is formed. (Ber. Deutsch. Chem. Ges., X., 685.)

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It has long been my personal belief that many pathological phenomena observed in diseases which are not usually credited to germ infection, are but the manifestations of the absorption of poisonous bacterial products. For example, the high temperature of fever may arise from the poisoning of the nerve-centre by such products. If this be true, then the increased secretion of phenol by the system during disease is, in fact, one of nature's many devices to cure the underlying condition, to destroy the germ infection. The increase of phenol elaborated by the system during pathological conditions is, in the light of the knowledge we have of bacteriology and of phenol, extremely significant. This reasoning naturally led me to think phenol was selected by nature for the cure of some at least, if not all, of the so-called germ diseases. Of course, the conclusion was obvious, but the corollary of that conclusion, which assumed great importance in my mind, was this—If nature herself provides phenol during disease, then it cannot be possible she will not tolerate the administration of the agent in effective dosage. Yet, the fact stared me in the face, that any injection of any known solution of phenol in effective dosage was believed to cause poisonous symptoms. This was equivalent to saying, *there must be some form in which phenol could be injected in effective dosage which would aid nature in her efforts to effect cure, and which would be tolerated by the human system.* Moreover it was apparent to me that phenol, being the only known antiseptic agent, except its homologue, cresol (4), of which the amount in the system is increased during disease, it would be the best to select for experimental purposes to the exclusion of any other. When we follow nature along her

4. Cresol hydrate is the homologue of phenyl hydrate, and we might expect to find cresol (tauric acid) in the urine—in fact, Baumann found it in the urine of graminivora, occurring as the potassium salt of paracresyl-sulphuric acid. (Ber. Deutsch. Chem. Ges., IX., 1389, 1716.)

Urine of the horse also contains some orthocresyl-sulphuric acid according to Preusse. (Hoppe Seyler's Zeitschr., II., 355, also Ber. Deutsch. Chem. Ges., XI., 1911.)

efforts to effect cure we cannot go far wrong. The problem before me, then, was to find the form of solution of phenol which nature would tolerate.

With this idea in mind, and remembering the fact that creosote has been and is extensively used for the treatment of tubercular disease, more especially for the pulmonary tuberculosis, and furthermore, knowing that creosote, according to the latest chemical researches, is not phenol (5), as it was formerly supposed, but merely has the latter as one of its constituents, I formed the opinion that the so-called creosote treatment, which may almost be said to have become a fad among physicians, depended for its success mainly on the presence of the phenol it contained.

Now, there is a fatal objection to the creosote treatment, namely, its derangement of the digestive function when given by the mouth for any considerable length of time, and this objection holds equally good in the case of phenol. Therefore, it was apparent that some other mode of administration than by the mouth and stomach should be chosen. I then took into consideration Gilbert's reports (6) of the administration of phenol solutions by the rectum in cases of phthisis, and came to the conclusion that the favorable percentage of cures (Gilbert claimed 25%) would probably be very much increased if the phenol could be administered

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5. While creosote has under certain favorable circumstances proved of value, still it cannot be relied upon. This fact is readily explainable, as Hugo Miller, Gorup-Besanez, Marasse and Tiesnau have shown that creosote is not phenol, but that although it contains some it is principally composed of para-cresol, phlorol, guaiacol, cresol, methyl-guaiacol, methyl-cresol, etc.—all of which exercise certain actions on the system peculiar to themselves.

Creosote contains:

Some phenol,  $C_6H_5OH$ ; para-cresol,  $C_6H_4OH$ ; phlorol,  $C_6H_3OH$ ; guaiacol,  $C_6H_4OCH_3OH$ ; creosol,  $C_6H_3CH_3OCH_3OH$ ; methyl-guaiacol,  $C_6H_4OCH_3OCH_3$ ; methyl-cresol,  $C_6H_3CH_3(OCH_3)_2$ , etc.

6. See *Annual of Universal Medical Sciences*, Sajous, *Phthisis Pulmonalis*, 1892-1893.

hypodermatically. This I found had been done by Declat (7), Sistini and others (8), who had made steps in advance of the former observer. The preparations of phenol recommended by them did not give me results with which I was satisfied.

I determined, therefore, to experiment with a view of producing a fluid which could be administered hypodermatically without irritation or toxic effects, and which should at least contain phenol in such effective dosage as would turn the scale of natural resistance in favor of cure. I am well aware that many men have drawn conclusions from experimental research that at least one per cent. of Phenol to the entire amount of blood in the system is necessary to effect the result I aimed at, and that such an amount would be overwhelmingly toxic (9). But these scientists too often lose sight of the fact that the outcome of experiments outside of the body are not, and never can be, identical with results depending in part on factors operating within the body. The blood is an antiseptic fluid when within the body, and one of very considerable power. Its natural resistance to germ infection, though this doubtless varies in different individuals, is great. A comparatively small amount of antiseptic reinforcement, therefore, may be sufficient to increase that resistance to the desired point.

I will not enter into a description of the long line of experimental work in the laboratory which finally led to the production of the fluid I have used in my formulated treatment of phthisis.

In order to enable physicians who have used it to understand what they were administering to their patients, I prepared a confidential circular which contained an exceedingly rough description of the method of manufacture. It will at once be apparent from the report printed below, that it

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7. See works.

8. See Practitioner, vol. 1, p. 4, 1894. Lancet, Nov. 25th, 1893.

9. Reference Handbook of Medical Sciences, vol. 1, p. 759.

would have been impracticable for me to have sent a detailed description such as is here given.

Desiring to have the description of its manufacture as complete and scientific as possible, I requested Prof. Henry A. Mott, the distinguished chemist, to investigate the process and report to me. Dr. Mott kindly consented, and his report is as follows :

Laboratory of  
HENRY A. MOTT, Ph. D., LL.D.

CYRUS EDSON, M. D.:

Dear Sir:—Pursuant to request, I have examined the preparation known as "Aseptolin," as also the process employed in its manufacture, and I have the honor to report as follows:—

By means of chemical analysis there can be separated from the fluid in question a colorless crystalline salt which is new to the medical profession, being a chemical combination of absolutely pure phenol ( $C_6H_5OH$ ) and the alkaloid pilocarpin ( $C_8H_9N_2O_2$ ). This pilocarpin-phenyl-hydroxide ( $C_{11}H_{16}N_2O_3.OH.C_6H_5$ ) exists in Aseptolin dissolved in an aqueous 2.75 per cent. solution of phenol.

#### THE COMPOSITION OF ASEPTOLIN.

Water ( $H_2O$ ) . . . . .	97.2411 per cent.
Phenol ( $C_6H_5O$ ) . . . . .	2.7401 " "

#### Pilocarpin-Phenyl-Hydroxide.

( $C_{11}H_{16}N_2O_3.OH.C_6H_5$ ) . . . . .	0.0188
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Total . . . . .	100.00 " "
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The composition of pilocarpin-phenyl-hydroxide ( $C_{11}H_{16}N_2O_3.OH.C_6H_5$ ), deduced by calculation, is as follows:—

Pilocarpin ( $C_8H_9N_2O_2$ ) . . . . .	53.92 per cent.
Phenol ( $C_6H_5O$ ) . . . . .	46.08 " "

Total . . . . .	100.00 " "
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It is not the function of the chemist to speak of the medicinal properties or applicability of a drug, hence I will

proceed to a description of the manufacture of the new compound which you have, after laborious research and experiment, produced, and also set forth the process adopted for the production of Aseptolin.

Your experiments have shown that none but the very purest chemicals can be employed. The phenol obtainable in the market, besides containing traces of para-cresol ( $C_6H_4OH$ ), contains, as a rule, other impurities which unfit it for the direct preparation of Aseptolin.

Starting with phenol distilled directly from its hydrate, ( $\pm C_6H_4OH \cdot O$ ), which has a much higher melting point, and a much lower boiling point, than the phenol ordinarily obtainable, I find that you subject a solution of such phenol distilled in water, to an additional distillation, heating the vapor as it passes from the retort to the receiver in an oil jacketed tube (in which a thermometer can be inserted) and then condensing the same in a double stoppered receiver, which enables you to reject the first 10% so condensed, utilizing the remainder with the exception of the last 10%, which is likewise rejected.

In the preparation of pilocarpin-phenyl-hydroxide, it is only necessary to weigh out an equivalent proportion of this purified phenol solution (after determining its strength by chemical analysis), heat the same to about  $100^\circ C.$  ( $212^\circ F.$ ), and then gradually add to it an equivalent amount of the pure alkaloid pilocarpin, when, on standing for ten or twelve hours, the uncrystallized pilocarpin-phenyl-hydroxide will separate out. From this salt, Aseptolin may be directly prepared by following the analysis given above. The usual method, however, adopted in its preparation on an extensive scale, is as follows:—

The highly purified phenol is diluted with distilled water until the percentage of phenol is reduced to exactly 2.75% which can be determined by the phenolometer. This is introduced into glass-stoppered receivers which have been thoroughly cleaned with boiling water. In the receivers the right proportion of the alkaloid pilocarpin is put so that as the phenol distills over

and condenses, it immediately combines with the pilocarpin in the production of Aseptolin. The temperature of the receiver is kept reduced by means of a small stream of water, yet sufficiently high to insure the desired union, but is never allowed to approach a temperature which would permit of the alkaloid suffering any other chemical change.

Experiment has demonstrated that strict adherence to the above methods is required in order to produce Aseptolin of a uniform composition and of an absolutely colorless physical appearance. A cloudy, milky, or slightly tinted preparation should be rejected. The proportions of the constituents do not permit of the presence of even traces of foreign bodies, if reliable results are to be expected. I am sir, Yours respectfully,

HENRY A. MOTT, Ph. D., etc.

It will be noticed that Dr. Mott speaks of "Aseptolin." Thinking this was a good word, and following the convenient fashion of substituting a name for a formula in writing, I have called this chemically pure solution of phenol and pilocarpin-phenyl-hydroxide, Aseptolin, because it is more convenient than is the repetition of the formula, but it is unnecessary for me to say that in order that such a name may not be classed with that of a proprietary remedy, the profession is free to substitute a better term, if need be, and either in its present form, or in any other, the new agent can be used as freely as any compound or combination of the pharmacopœia.

Pilocarpin was added to the solution for two reasons—first, to induce leucocytosis (10); second, to stimulate glandular activity. It also accomplishes a third purpose, for it is an expectorant and stimulant of secretion of very considerable power. It causes a certain increase in the amount of water separated from the blood in the lung cells. This

10. "Beobachtungen an Leukocyten sowie über einige therapeutische Versuche mit Pilocarpin bei der (Diphtherie?) Streptokokken-Angina, Lymphdrüsen-Erkrankungen, Tuberculose und Lupus," von Dr. Louis Waldstein aus New York. (Sonderabdruck aus der Berliner klin. Wochenschr., 1895, No. 17.)

is shown by the fact that there is an increase of watery vapor carried off by the breath of a person taking it.

A short study of pilocarpin is interesting. A. Curci(11) states that this drug produces hypersecretion; in large doses it causes convulsions and paralysis. The paralysis is accounted for by regarding pilocarpin as a quarternary ammonium compound; but phenol and the oximhydroxyl group are more powerful in producing hypersecretion, while at the same time there is less danger of causing convulsions and paralysis. It is not improbable that in the organism change may occur, a pilocarpinate being formed with the bases of the body. In dogs, the drug leaves a body in the urine as free pilocarpin, and also as a pilocarpinate. Pilocarpin has been used in croup and diphtheria by Sziklai (12), he giving pilocarpin hydrochloride in doses 0.02 to 0.07 for children, and 0.08 to 0.10 for adults. Leyden has used one-half to two per cent. solution for subcutaneous injection. Ringer and Jaunson (13) have administered for experimental purposes 0.0325 grms. of nitrate of pilocarpin. Weber (14) experimented on himself, using 5 C.C. of a half per cent. solution. No one who has ever given a large dose of jaborandi or its principal alkaloid, pilocarpin, and has observed the enormous amount of water that almost fills the lung cells, the small and larger bronchi, will forget the danger that impends from œdema of the lungs. Of course, the amount of pilocarpin, even in the largest doses of Aseptolin, is not sufficient to cause a perceptible effect in this direction.

From what has been said it will be apparent to all chem-

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11. Chem. Centralb. 1893, 659. Also, Annali Chem. Farm. 1894, 3-8.

12. Actyl. Prakt. 1893, 914.

13. Phar. Jour., 3,596.

14. Med. Centralblatt, Wien, 1876, p. 769.

The foregoing paper appeared in the *Medical Record* of February 7th, 1896. It was impossible, owing to the value of space in that journal to give all the cases reported either by myself or others, in full. No such objection holds in the present monograph.

ists that Aseptolin is a hydro-phenol, containing a definite amount of a new salt of pilocarpin.

It is not so very difficult to make, provided one has the apparatus and is sufficiently careful. It needs extreme care. The experience of my laboratory assistant, as written in a note to me was as follows :—

“ For two months I could not produce a satisfactory fluid more than once in three times ; in fact, I think we threw away during the first three months about one half or nearly all of what we made. The results of our experiments with guinea pigs were such as to convince anyone that no phenol solution, of the strength of the pilocarpin-phenyl-hydroxide solution, except the latter, could be safely injected. If other men make it they should be extremely careful, otherwise their product may give rise to serious consequences.

The solution prepared in my laboratory is a colorless fluid, strongly refracting light, having the characteristic odor and taste of phenol. Injected under the skin, it causes a sharp, burning pain, not as severe as that following an injection of bi-chloride of mercury in solution. In the great majority of cases the injection is not followed by any local irritation whatever. In a few, a small nodule appears at the point of injection, which as a rule disappears after a few days. Dr. Glover C. Arnold, of New York, declares this nodule results from injecting fluid against the flow of the capillary lymphatics, and advises all hypodermatic injections to be made with needle inserted in the direction of the flow of these lymphatic vessels. This, in the abdomen, would be effected by directing the insertion of the needle away from the median line. Though I have given over 6,000 injections, and some of them very large ones, viz., single injections of 350 minims each, I have not seen a single abscess resulting therefrom, and nodulation in only two cases; one of these was on my own person following an injection of 250 minims for experimental purposes. No reaction, such as follows the administration of tuberculin, is observed after the injection of properly prepared pilocarpin-phenyl-hydroxide solution, nor is there any visible physio-



logical action noted following an injection of 250 minims given to a man weighing 150 lbs., except that the urine passed subsequently reacted strongly to tests made to ascertain the presence of phenol, and traces of phenol were noted in the condensed vapor of the breath, and in the contents of the stomach drawn off through the oesophageal tube within three hours of injection,

The effect of the solution, when injected into the organism of a patient suffering from disease caused by active germ infection, is to directly inhibit bacterial development, and consequently to diminish the production of poisonous bacterial products. Its beneficial effects are so quick and positive in the great majority of cases as to convince anyone who uses it of the correctness of this conclusion. Phenol and pilocarpin-phenate both stimulate glandular activity and exert a physiological effect in this direction over the range in which they act synergistically. It follows, therefore, that the remedy stimulates the production of the leucocytes.

Experience certainly has taught us that stomach derangement in the cases of phthisis, if not speedily remedied, very quickly results in the death of the sufferer. It is right here that I claim an enormous advantage for the treatment that I am using. It enables us to save the stomach for alimental purposes alone, and by giving easily digested, rapidly assimilated and highly nourishing food, a very great factor in a favorable result is secured.

The dosage, so far as I have been able to formulate it, in a case of phthisis, should begin with 50 to 70 minims daily, given in the abdominal parieties in a single injection. This dose should be increased about 10 minims daily until 100 or 120 minims is reached. Thus, commencing with a dose, say of 70 minims on the first day of treatment, on the second day 80 minims should be given, on the third 90, and on the fourth 100. This latter dose should be kept up until the patient has recovered, or until some symptoms appear which indicate to the attending physician the discontinuance of the Aseptolin. This would probably be the case if, for in-

stance, albumen should appear in the urine, or if unusual nervous symptoms should develop, or if persisting nausea should be present, or if any symptom which was evidence of a personal idiosyncrasy against the remedy should show itself, but 250 minims daily have been given without any ill effects.

With these injections—I inject daily, or in some cases every other day, the treatment depending on the severity of the disease, and the response of the patient to the remedy—I give inhalations delivered from a Sass spray tube and a globe inhaler.

These inhalations are of very great importance. The most efficient of the sprays I have found in a 10% solution of iodoform in ether.

Iodoform.....	10 parts.
Ether.....	90 “
	<hr/>
	100

This is given once or twice daily through a Sass tube having laryngeal delivery. The spray is best given under a delivery pressure of one atmosphere. This, of course, necessitates the use of an air pump and a receiver, which can be purchased from almost any reputable surgical instrument maker. The spray tube should be introduced in such a manner that the tip nearly touches the posterior pharyngeal wall, when the spray will be delivered into the larynx. Care should be taken not to deliver the spray too forcibly. The patient should inhale and exhale deeply during the delivery of the spray in order to draw the spray as far into the affected region as possible.

The object of the spray is to assist in clearing the larynx and bronchi of infective material contained in their secretions.

In some cases it will be found almost impossible to give the spray in a satisfactory manner at first. A spasmodic cough will follow the first inhalation. Experience of this kind led me to use a solution of phenol in water containing

some glycerine to assist nebulization. Expressed in form of a prescription this would be as follows:—

R.  
Acid Carbolic..... 3.  
Glycerine.....10.  
Aqua distil.....87.  
Sig. Use in globe or other inhaler.

After a few inhalations of this the air passages as a rule lose their irritability, and the iodoform and ether can be readily used.

A few patients will be found, however, to whom the odor of ether is intolerable. To these I give an inhalation of olive oil containing 10% of iodoform in solution. This solution can be readily made by any pharmacist. Iodoform is not very soluble in alboline, or this would afford, perhaps, a better menstruum for the purpose than does olive oil. The vaporization of the iodoformized oil is best effected by means of the globe inhaler. Lacking this, the McBride inhaler may be used, or it may even be given with one of the nebulizers such as are found in the pharmacies. I consider the oil and iodoform an efficient substitute for the iodoform and ether solution. I have seen no ill effect from the cold vapor produced by the ether solution in any case I have had under treatment, and my experience has led me to consider it the best of all inhalations for phthisis when it can be used.

I have obtained good results in the treatment of atelectasis by means of compressed air, which is delivered through a large globe inhaler at a pressure of about 10 lbs. to the inch. This should be used with caution, and not in advanced cases lest it cause hemorrhage.

The method of procedure is as follows:—

The inhaler being connected with its atomizing attachment, the openings into the afferent end are closed so as to permit the interior of the globe to hold the pressure when the patient's lips close over the mouth-piece. The air being turned on, the patient is directed to inhale deeply. The

deep inhalation aided by the "vis-a-tergo" the compressed air forcibly distends the lungs, opening up disused portions into which the vaporized spray is carried. After practising this procedure the first few times the amount of expectoration is frequently increased to a very great degree, and breathing is much freer and easier. The pneumatic cabinet would doubtless afford a more efficient means of effecting this than the one just described, but few physicians can afford to purchase so expensive an apparatus.

A number of patients present themselves who seem to have forgotten how to breathe properly. They expand the lungs so feebly that the distal parts seem to have consolidated simply from want of use. A little earnest advice on the use of "lung gymnastics" at home, together with the forcible inhalation through the globe inhaler, accomplishes much.

My experience with Aseptolin in the treatment of malaria leads me to consider it a specific and of even greater efficiency than quinine.

I have personally treated 38 cases of this disease. In the great majority of cases the mode of administration was as follows :—

On the first day of treatment 200 minims were injected as an initial dose. This was delivered into the abdominal parieties in two injections of 100 minims each, on either side of the median line, the point of the needle being directed away from it. On the second day and each day following, until and including the 7th day of the treatment, 100 minims were given (injected into the abdominal parieties in different places, first on one side of the median line and then on the other). Then, on every alternate day, for three alternate days, 100 minims were given in a like manner. On the twenty-first day a dose of 100 minims was administered, and finally the treatment was concluded with an injection of 100 minims on the 28th day. Latterly I have given 200 minims on the 28th day as a final dose.

In not a single case has there been any recurrence of the malarial paroxysm after the first injection of 200 minims nor have any of my cases had a recrudescence or a recurrence of

the attack. The patients appear well in every way within a few hours of the first injection. The medicine appears to act equally well when given during the paroxysm or during the intermission or remission, and in remittent types as well as intermittent. Dr. John H. Ripley, of New York City, used the solution in two cases of malaria which he describes as follows :—

“The first was a complicated one, but the malarial factor seemed to yield readily. The second was a very chronic malarial poisoning in a very young girl. Her case was treated according to your plan carried out to the letter (described in the foregoing). She came from Brooklyn and remained in New York so as to get the full benefit of the treatment. The disease yielded by degrees. After one week she appeared well, but a relapse occurred a week after the treatment was discontinued. I then sent her to a non-malarious country place in Connecticut, where she has since remained well. This was a very obstinate case of recurring malaria in which I had given large doses of quinine hypodermatically with only temporary relief.”

In reporting results obtained from the application of the treatment described in the foregoing, I find myself confronted by many serious difficulties, not the least of which are lack of time and space. My practice has demanded an amount of attention that has put serious obstacles in the way of my work. I have, however, been very greatly assisted in testing the fluid by able practitioners, to whom I owe a very great debt of gratitude. Among these are: Dr. R. P. Lincoln, Dr. John G. Perry, Dr. E. N. Brandt, Dr. John H. Ripley, of New York City, and Dr. Lewis Balch, of Albany, N. Y. The experience of these gentlemen will probably be given in articles of their own. I have prepared and written reports of a large number of cases treated, but in an article of this kind find space for only a very few typical ones, more to illustrate the method of treatment than its efficiency.

CASE I.—W. M., male, age 24 years, good family history. Has suffered from cough. Normal weight, about 158. Sep-

tember 3d, 1896, 128 lbs. Occasional night sweats and attacks of facial and intercostal neuralgia. Expectorates about an ounce and a half of muco-purulent sputa daily, containing large numbers of tubercle bacilli, also streptococci. A slight daily rise of temperature, 99.4° to 100.3° being the evening temperature. Physical signs show small cavity surrounded by area of consolidation in middle lobe of right lung. This general condition was first noted in December, 1894, but improved so as to have entirely disappeared during a six months' residence in New Mexico. Upon return to New York there was recrudescence. Prior to September 3rd he received extract of malt with cod liver oil, creosote carbonate, and a cough mixture containing codeine and ammonia. Under this the patient rapidly lost ground. September 3d. 60 minims of Aseptolin were injected into the abdominal parietes, and iodoform spray administered. Nutrient treatment, consisting of emulsion of cod liver oil, somotose in chocolate, egg phosphate, etc., was prescribed. The dose of Aseptolin was increased to 100 minims daily, until 100 minims daily were given. September 10th, cough much better. Expectoration diminished one-half and contains fewer bacilli. Temperature normal. No return of night sweats. Physical signs seem slightly improved.

October 1st. Has had 100 minims daily since September 10th, and the spray has also been daily administered. No cough or expectoration. With difficulty a little sputa consisting purely of mucus can be obtained, and this contains no tubercle bacilli. The patient seems in normal health. Has gained six pounds. Appetite excellent. Objects to further treatment on the ground that he is well. This improvement held until January 4th, 1896, except that the patient had a severe coryza and slight bronchitis in November, which necessitated the treatment for one week, during which he was given 100 minims Aseptolin daily, and the spray as described in foregoing. Patient has not yet regained his normal weight, however, weighing at date 148 lbs. His sputa has been repeatedly examined, but no bacilli found.

On April 1st he was taken with a severe attack of urethritis, and while suffering from this he ran down considerably in strength and weight. I watched him very carefully, but there was no return of the bacilli, nor did the cough increase. What cough he had at this time was caused by a bronchial catarrh. There was no increase of the expectoration, nor did the sputa change their character. By April 15th the urethritis was under control, and the patient once more showed a normal condition. The fact that during the severe strain of the urethritis there was no return of any symptom of phthisis caused me to consider the patient cured of that disease.

CASE 2.—L. B., female, 22 years, married. Good family history. Has two children, both being well and strong. Disease is of long standing, beginning some time in 1892. Apices of both lungs show extensive atelectasis; bronchitis with profuse expectoration, about three ounces muco-purulent sputa daily; no cavities, but some shreds of lung fibrous tissue in sputa, which also contains large numbers of tubercle bacilli. Loss of weight, strength and appetite. Diarrhoea. Night sweats. Cough severe and almost constant. Breathing hurried. Shortness of breath prevents much outdoor exercise. Very little exertion induces palpitation. Patient very anæmic. An ulcer, probably tubercular, is disclosed by laryngoscopic examination in arytenoid space. Patient spent summer at Liberty, New York, and had greatly improved, but lost this improvement and something more on return. Treatment up to October 17th had consisted solely of creosote, cod liver oil and quinine. On October 17th 100 minims of Aseptolin, and the spray of iodoform and ether were administered, and these were continued daily thereafter until October 20th. No change, except that patient says her appetite has much improved. She also says something is making her nervous. The bowels still loose. 110 minims Aseptolin and spray were daily administered until November 1st. Within this period a very great change for the better has taken place. Patient coughs less. Sleeps well. Has good appetite. Has gained

three pounds in weight. Expectoration much less. No night sweats. Tubercle bacilli are still present in the sputa, but in less numbers, and no lung tissue appears in the microscopic field. The movements from the bowels have been normal since October 22d.

This patient's daily condition continued to improve until November 28th under the daily treatment I have described. Just prior to this date her sputa was examined and no tubercle bacilli found. She had gained 10 lbs. in weight, and the amount of sputa decreased, until only about one-half an ounce daily was expectorated. Her cough grew less and less. On the latter date (November 28th) the patient complained of nausea and loss of appetite. These conditions persisted for a week without return of symptoms except that the patient lost about three lbs. in weight. Feeling that the treatment was causing the unfavorable symptoms I discontinued it for one week, during which they ceased. During the discontinuance of the treatment she developed an attack of acute bronchitis, and while she was still suffering from it I resumed the treatment, giving 120 minims the first day and the spray. The following day I gave 100 minims and spray, and continued that treatment daily for one week, then every other day, until the present time (January 4th, 1896). She recovered quickly from the bronchitis, regained her weight and about six lbs. additional. Microscopic examination shows a recrudescence of the tubercular infection. She still has a slight cough. The laryngeal conditions disappeared during the fourth week of treatment. She expectorates at present very little, and the sputum still contains a few tubercle bacilli. There are no night sweats. Patient is strong and able to take an abundance of out-door exercise.

To date, May 1st, the case has continued to progress favorably, and the weight has not diminished. The bacilli disappeared from the sputa on Feb. 15th, but reappeared in the examination on March 21st. Examinations were made on March 26th and 29th and April 15th, but no bacilli were



found. The patient appears to be steadily gaining in every way.

This case is a very good example of a number in my own and in the practice of other observers, where the treatment has accomplished a great deal, and where it promises still more; at the same time it is a constant struggle in these cases to keep the upper hand of the disease.

The reports which follow I have received from Dr. John G. Perry, of New York City. Dr. Perry's practice makes such demands on his time that he found it impossible to write more fully. As he says in a note which came with the reports :

"If the enclosed cases are of any value to you, pray use them. I have had to write them as they appear, for I had no more time to give. Really, one needs more time than I have been able to find, to properly study the results of your solution of pilocarpin-phenyl-hydroxide.

"CASE 1.—Miss C. Family history good. Has suffered for several years from insufficient sleep, hemicrania, cold extremities, dysmenorrhœa and menorrhagia. Very anæmic. Not finding uterine disease or displacement, and learning that she had formerly resided at Elizabeth, New Jersey, concluded that the condition was one of miasmatic origin, and began the use of hypodermatic injections of Pilocarpin-Phenyl-Edson without adjuncts. As she was not able to visit me daily, there was no regularity in the treatment, but improvement began at once.

"Menstruation began after the fifth injection, lasted but four days, and was not attended with pain. After the tenth injection, being free of the symptoms complained of, was discharged.

"CASE 2.—Miss G., age 22 years. A resident of Long Island. Had long known of her as a victim of insomnia, mental depression and dyspepsia. In 1894, she appealed to me for relief from the above symptoms and also from acute indigestion which indicated gastric catarrh. For this I employed lavage, which gave her immediate relief, but exacer-

bations occurring whenever the atmosphere became humid; and as she found it difficult to come to the city regularly for treatment she was taught to use it herself. Recognizing the cause to be malarial and one she had never suspected, and could not remove herself from its influence, I thought it more charitable not to mention it to her; but after receiving the Pilocarpin-Phenyl-Edson I sent for her and kept her in town and gave daily injections of 50 drop doses, hypodermatically. At the end of three weeks she had recovered her health entirely; could sleep through the night; was without headache and without indigestion, and had gained nine pounds in weight.

"Returned home December 30th, and has remained well since.

"CASE 3.—Miss T., age 26 years. Father died of cancer of the stomach. Mother a neurotic. Always delicate, of feeble constitution and subject to bronchial cough as well as gastric catarrh. At the time of receiving the solution from Dr. Edson she was preparing to go South having developed a lesion at the apex of the right lung with cough, sputa, a constant temperature of  $99 \frac{2}{5}^{\circ}$ , and the beginning of a catarrhal form of phthisis.

"As the patient lived far away and could only come to me when the weather permitted, I could not carry on the treatment according to Dr. Edson's formula, but on January 9th I gave the 12th injection of 50 minims.

"The cough has ceased; temperature fallen to  $98 \frac{3}{5}^{\circ}$ ; appetite has improved with general strength, and the patient is so much improved that she begs permission to remain at home to continue treatment."

I have used injections of the solution in a number of cases of catarrhal and febricular gripe, occurring in the first week of December, 1895 to January of this year. No bacterial examination was made in these cases, however, and I can only say that they presented symptoms which were referable in my opinion only to contagious influenza. Two cases will serve to illustrate its effect in this disease.

CASE 1. S. C., age 32, residence Elizabeth, New Jersey. January 15th. This gentleman called at my office after having had a severe chill. Temperature 103; severe muscular pains, also pains in knee joints. This gentleman has had severe attacks of grippe, and declares his disease identical with other attacks which occurred in the prevalence of grippe. I administered 187 minims of Aseptolin in a single dose, sent him home, where he remained in the care of Dr. McLane of Elizabeth, who gave him one injection of 120 minims. He was completely well after about six hours. His previous attacks, he says, were not as severe at the outset but lasted 10-14 days.

CASE 2. Mrs. T. F. G., age 22. Had slight chill followed by extremely severe cough and fever, December 12th, 1895. Sub-crepitant rales heard over posterior of both lungs. Temperature  $103\frac{1}{2}^{\circ}$ . Respirations rapid. Pulse 120, full and bounding. Severe pains over chest from coughing. Face flushed. Profuse sweats. Extreme depression. This patient for three days remained in about the condition I have described. On the fourth day, owing to having slept exposed to a draft, her symptoms appeared suddenly worse. Patient had a slight chill; temperature taken after its immediate subsidence was found to be  $104^{\circ}$ . I gave a single dose of 200 minims of Aseptolin and this was followed by a subsidence of all symptoms; within 24 hours she was convalescing nicely. I did not repeat the dose of the remedy. She made an uninterrupted recovery, and was able to go out and resume her ordinary habits of life within four days after the injection.

It is necessary to say a few words in reference to the permanency of any cure or apparent cure in a case of tubercular disease. In the first place, patients having once had such a disease must be considered susceptible to its infection and liable to a reinfection and a new attack. Their susceptibility, however, is likely to diminish. Each year as they grow older will doubtless effect changes that will render their systems less favorable soils for the growth and development of the bacilli. Second, areas of infected

structures may become encysted and remain so for long periods, during which an apparent cure will seem to have taken place, the condition being one which, in fact, will delude the patient only while the encystment endures. Should something occur to break the latter down and free the bacilli a recrudescence of the disease will at once follow. These two conditions, it seems to me, must always obtain and must be considered not only in the case of the treatment I have just described, but as affecting the permanency of results that may be obtained through the means of any treatment that does not involve the use of a preventive virus.

Time and space have only permitted the description of the treatment with sufficient detail to enable any physician to apply it. Beyond this—and a few references to the theory I believe underlies it—I have not gone. We pride ourselves, and justly, on this side of the Atlantic on our practicality. As physicians we ask for results only, and no theory has a living chance among us if results do not follow its application.

It is for this reason that I submit this treatment and the Aseptolin to the profession. From what I have personally seen in my own practice, and from what has been told or written to me by scientific men for whom I have respect, I confidently believe this method of treatment will afford the best result yet obtained, not only in the cure of phthisis and other forms of tuberculosis, but of other diseases of germ origin. Its possible range is obviously very wide.

It is now in the hands of about fifty physicians in different parts of the country. I will leave for a subsequent report the descriptive histories of a number of cases included in the following summary.

The total number of cases that have been and are being treated with this fluid which have been reported to me to date is 218. Of these, improvement is reported in 214 cases, and no improvement in 4 cases. Of the improved cases 23 have been discharged cured, 68 will in the opinion of the attending physician be discharged cured, and in 91 cases, while the improvement is noted, no definite prognosis can be made yet. In 32 cases the improvement was only temporary. Of those in which no improvement has been noted, one has died.

CYRUS EDSON.

The following reports were sent to me by Dr. Lewis Balch, of Albany, who was one of the first physicians asked to test Aseptolin, and who has had great success with it. The especial value of Dr. Balch's report lies in the fulness of the record kept. The first case reported was one of acute phthisis, and therefore one of that class in which the fluid has shown the best results. The report will supply answers to many questions which will suggest themselves in the practice of other physicians.

## **Phthisis Treated With Aseptolin, Dr. Cyrus Edson's New Method. Report of Cases.**

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Lewis Balch, M. D., Ph. D., Emeritus Professor of Anatomy and Professor of Medical Jurisprudence and Hygiene, Albany Medical College, Albany, N. Y.

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The general hopelessness of relieving cases of phthisis is a matter well known to the practitioner. To make the diagnosis is often times nearly equal to filling out the death certificate. The fortunate few whose means allow of change of climate, with all the added comforts of luxury that money can purchase, may live and enjoy fair health for years, and in some cases recovery may result, but for the many who by their circumstances are denied such aid to treatment, the ordinary remedies offer but little. The disease is too powerful, and after a few years at most, they yield and are known no more. Dr. Edson has, however, added a remedy to the list which gives much greater chance for success in treating consumption. Judging from the experience I have had with Aseptolin, I consider its future an enviable one. While, like every remedy used by the physician, it may not act in all cases, it certainly does in the majority, and this is much. The ease with which Aseptolin is borne by the patient adds greatly to its value. In all of my cases no deleterious results from it have been noticed. In not one has any albumen in the urine been found. In three the urine has shown urates and phosphates in large quantities,

but these could not be fairly attributed to the Aseptolin, for both disappeared in two or three days, and the hypodermatics of the remedy were continued without intermission. One case is given *in extenso*.

November 28th, 1895. Miss F. B., 19 years. No occupation, unmarried, resides at home.

Family history. As far as can be learned no phthisis is in the family or catarrhal bronchitis. Father is tall and thin and looks phthisical, but is in excellent health. Mother of fair height and in excellent health.

Personal history. Has always been well up to four weeks ago. The family have lately moved to Albany from Washington, D. C. Four weeks ago weighed 125 lbs. Was taken with cough, very distressing; loss of appetite. No night sweats; no pain, except from the coughing. Rapid loss of strength and flesh. Slept badly, and bowels were irregular.

Present condition. In bed, unable to sit up. Had a hemorrhage which prostrated her considerably. No appetite. Her physician called counsel, so that no doubt of diagnosis could be raised. She was pronounced undoubtedly suffering from phthisis. Areas of dulness over right upper lobe with mucous rales and broncophony. Left lung showed increasing expiratory murmur at apex. The sputa was examined by Dr. MacFarlane and the bacilli tuberculosis found. Weight said to be 105 lbs. 60 m. Aseptolin and spray. Temp., 98 4/5° a. m., 99 2/5° p. m.; pulse, 90 a. m., 88 p. m.; respiration, 28 a. m., 22 p. m.

November 29th. Slept fairly well. Bowels moved. Urine contained urates, but no albumen. Feels fairly well. The patient had had a hemorrhage a few days before treatment with Aseptolin was begun. Pupils dilated. Feet cold. Temp., a. m. 98 3/5°, p. m. 99°; pulse, a. m. 120, p. m. 100; respiration, a. m. 18, p. m. 20. 60 m. Aseptolin and spray.

November 30th. Slept well and feels better. Cough less and raises very little. In the afternoon, with but little coughing, a small hemorrhage came. Appetite very good.

Temp., a. m.  $98 \frac{3}{5}^{\circ}$ , p. m.  $99^{\circ}$ ; pulse, a. m. 88, p. m. 120; respiration, a. m. 20, p. m. 22. Urine has cleared up. No albumen. Complains of soreness at points of injection. 80 m. Aseptolin and spray.

December 1st. Did not sweat during night. Slept well. Feet cold. Did not cough much. Eat a hearty supper last evening, feeling hungry. Bowels moved; a very good passage. Temp., a. m.  $97 \frac{2}{5}^{\circ}$ , p. m.  $100^{\circ}$ ; pulse, a. m. 100, p. m. 108; respiration, a. m. 22, p. m. 26. 100 m. Aseptolin and spray.

December 2nd. Slept well. Feels stronger, with good appetite. Cough very slight. Again slept in the afternoon and felt hungry. Temp., a. m.  $98 \frac{2}{5}^{\circ}$ , p. m.  $98 \frac{2}{5}^{\circ}$ ; pulse, a. m. 108, p. m. 120; respiration, 20 a. m. and p. m. 100 m. Aseptolin and spray.

December 3rd. Slept well. Woke up and coughed at 5 a. m. Had a small hemorrhage. No night sweat. Appetite good, and patient feels better. Temp., a. m.  $98 \frac{2}{5}^{\circ}$ , p. m.  $98 \frac{2}{5}^{\circ}$ ; pulse, 110 a. m. and p. m.; respiration, 20 a. m., 22 p. m. 100 m. Aseptolin and spray.

December 4th. Slept and felt well until this morning; had two small hemorrhages in the early morning, and has a painful feeling of pressure in lower bowel. Appetite fair. Coughed a little after the bleeding. Ordered bowels to be moved and gave aloin, strychnine and belladonna at night. Temp., a. m.  $98 \frac{2}{5}^{\circ}$ , p. m.  $99^{\circ}$ ; pulse, a. m. 120, p. m. 130; respiration, a. m. 20, p. m. 26. 100 m. Aseptolin and spray.

December 5th. Slept well; did not cough during night. About 8 this morning brought up some phlegm, streaked with blood, but did not cough to raise it. No night sweat. Bowels moved this morning, and feels better in every way. Appetite good. Weighed and found to mark 102 pounds. Father states he made a mistake in reading the scales when he weighed on November 28th. The patient has certainly gained in flesh, as her face and limbs are filling out. Temp., a. m.  $98^{\circ}$ , p. m.  $99^{\circ}$ ; pulse, 106 a. m. and p. m.; respiration, 20 a. m. and p. m. Spray.

December 6th. Slept well. No cough. Spit up some phlegm this morning, a little streaked with blood. Ate beefsteak yesterday and was hungry. Appetite very good to-day. Breathes easier and clearer. Feels well, but legs are very weak. Allowed up and to be dressed. Temp., a. m. 98  $\frac{2}{5}$ °, p. m. 98  $\frac{2}{5}$ °; pulse a. m. 100, p. m. 96; respiration, a. m. 20, p. m. 18. 100 m. Aseptolin and spray. Patient is also taking pepto-mangate of iron. Bowels moved.

December 7th. Woke up several times, otherwise slept well. No sweat. Coughed upon going to sleep. No cough this morning. Raised some mucus, which was a little streaked with blood. Feels well, except legs still weak. Up and dressed. Temp., a. m. 98°, p. m. 100°; pulse, a. m. 108, p. m. 112; respiration 20 a. m. and p. m. Spray. Bowels moved.

December 8th. Woke up once. No cough. Brought up a little phlegm, but it was white and no blood. Bowels moved. Appetite good. Patient up and dressed. Temp., a. m. 98  $\frac{2}{5}$ °, p. m. 100°; pulse, a. m. 108, p. m. 123; respiration, a. m. 20, p. m. 22. 80 m. Aseptolin.

December 9th. Slept well. Woke up once and coughed once. Coughed a little more yesterday afternoon. Raised a little more, but it was not streaked with blood. Bowels have not moved. Appetite stronger. Walks better. Up and dressed. Temp., a. m. 98  $\frac{1}{5}$ °, p. m. 100°; pulse, 112 a. m., 130 p. m.; respiration, 18 a. m., 2 p. m. Spray.

December 10th. Slept well. No cough. No sweats. Bowels moved twice this a. m., good natural stools. Appetite good. No blood. Can walk much better. Pupils are more contracted. Temp., a. m. 98  $\frac{2}{5}$ °; pulse, 108; respiration, 24. 80 m. Aseptolin. Temp., p. m. 101°; pulse, p. m. 112; respiration, p. m. 20.

December 11th. Slept well; did not cough any during night, but a little this morning. Raised a little phlegm, but no blood. Feels much stronger and brighter and can walk better. Appetite good. Examination of lungs shows both apices involved with increased resonance on right side.



Temp., a. m.  $98 \frac{2}{5}^{\circ}$ , p. m.  $99 \frac{2}{5}^{\circ}$ ; pulse, a. m. 112, p. m. 106; respiration, a. m. and p. m. 20.

December 12th. Slept well. Only waked by hearing her sister coughing. No cough. No sweat. Bowels moved twice this a. m. and once last night. Were not loose. Appetite good. Weighed  $105 \frac{1}{2}$  lbs., a gain of  $3 \frac{1}{2}$  lbs. Temp., a. m.  $98 \frac{2}{5}^{\circ}$ , p. m.  $99 \frac{2}{5}^{\circ}$ ; pulse, a. m. 104, p. m. 116; respiration, a. m. 22, p. m. 24. 90 m. Aseptolin and spray.

December 13th. Slept well. No cough. Has a tickling sensation in throat. Appetite good. Bowels natural. Coughed a little in the afternoon. Temp., a. m.  $98 \frac{2}{5}^{\circ}$ , p. m.  $98 \frac{3}{5}^{\circ}$ ; pulse a. m. 100, p. m. 100; respiration, a. m. and p. m. 22. Spray twice.

December 14th. Slept well. Woke once or twice, but did not cough. Did cough a little before going to sleep when she went to bed. Raised a very little. Had a feeling of tightness in the chest such as she had when she had the hemorrhages. Raised no blood. Bowels natural. Appetite good, and food tastes better. She has been trying Magee's emulsion, but it causes a little nausea. Ordered changed to Scott's. Temp., a. m. and p. m.,  $98 \frac{2}{5}^{\circ}$ ; pulse, a. m. 98, p. m. 100; respiration, a. m. 20; p. m. 22. Spray twice. Dr. MacFarlane reports no bacilli.

December 15th. Slept well. No cough during night; a little this morning. The stuffed-up feeling she had yesterday is better. No sweat. Bowels moved last night. Appetite good. Feels stronger and walks easily. Patient being so well and the day not very cold she was allowed to take a short drive. She walked down to the carriage, one flight of stairs and a high stoop. Went for a short drive, and did not cough once while in the open air. She walked up the stoop and was carried up the stairs, because it was thought best not to allow her to undertake too much exertion. She slept two hours after her ride, and then ate a hearty dinner. Bowels moved, slightly constipated. Temp., a. m.  $98^{\circ}$ , p. m.  $99 \frac{1}{5}^{\circ}$ ; pulse, a. m. 100, p. m. 100; respiration, a. m. and p. m. 20. Spray twice.

December 16th. Slept well, waking a few times, but going to sleep at once. No cough. Raised a little last evening. Bowels moved. Appetite excellent. Was not tired after her ride of yesterday, and she wished it had been longer. Directed to go out with her father for a few minutes' walk. She cannot take the emulsion, so is ordered the plain oil. Temp., a. m.  $98 \frac{2}{5}^{\circ}$ , p. m.  $99^{\circ}$ ; pulse, a. m. 116, p. m. 104; respiration, a. m. 22, p. m. 22. 40 minims Aseptolin and spray twice. Bowels moved. Ordered digitalis.

December 17th. Slept well. Waked up by hearing her sister cough. Coughed and raised a little this morning, but not in the night. Appetite good. Did not go out yesterday, as her stomach was slightly upset, slightly nauseated. Bowels moved naturally in the afternoon. Pulse, a. m. 112, p. m. 104; temp., a. m.  $99^{\circ}$ , p. m.  $98 \frac{4}{5}^{\circ}$ ; respiration, a. m. 20, p. m. 20. Spray.

December 18th. Slept well. Only woke up when she heard her sister coughing. Coughed and raised a little this morning. No cough during the night. Bowels moved. Appetite fair. Patient a little jaundiced. Pulse, a. m. 100, p. m. 120; temp., a. m.  $99^{\circ}$ , p. m.  $99 \frac{2}{5}^{\circ}$ ; respiration, a. m. 20, p. m. 24. 100 minims Aseptolin and spray.

December 19th. Slept well. No cough until this morning, when coughed and raised a little. Patient no longer has any night sweats. Appetite fair. Bowels moved in the afternoon, and were grayish-white in color. Patient says she feels well and stronger. Ordered X. m. Acid. Nitro-Murat. dil. t-i-d Hydr. Chlor. Mitis. gr.  $\frac{1}{2}$  at bedtime. Stop cod liver oil and go on meat diet. Patient menstruated to-day for the first time in six weeks. Pulse, a. m. 120, p. m. 120; temp., a. m.  $98 \frac{2}{5}^{\circ}$ , p. m.  $99 \frac{2}{5}^{\circ}$ ; respiration, a. m. 22, p. m. 24. Spray twice daily. Gained  $\frac{1}{4}$  lb. in weight this week.

December 20th. Slept well. No cough during night, but a little this morning. Raised a little easily. Bowels moved freely, still gray in color. Jaundice continues, but not increased. Appetite fair. In the afternoon color improved.

Bowels moved three times. Skin moist. Tongue clear. Pulse, a. m. 108. p. m. 100; temp., a. m.  $98\frac{2}{5}^{\circ}$ , p. m.  $102\frac{2}{5}^{\circ}$ ; respiration, a. m. 22, p. m. 20. 60 minims, and spray twice a day.

December 21st. Slept well. Woke once. No cough. Bowels have not moved this morning. Appetite good. Is not nauseated. Jaundice about the same. Bowels moved in the afternoon, and were natural in color. Pulse, a. m. 104, p. m. 96; temp., a. m.  $98\frac{2}{5}^{\circ}$ , p. m.  $98\frac{3}{5}^{\circ}$ ; respiration, a. m. and p. m. 20. Spray twice. 60 minims.

December 22nd. Slept well; thinks she woke and heard the rain. No cough. Raised a little this morning. Bowels have not moved this morning. Color a little better. No nausea. Appetite the same. Jaundice about the same. Bowels moved in the afternoon, and were natural in color. Pulse, a. m. 104, p. m. 96; temp., a. m.  $98\frac{2}{5}^{\circ}$ , p. m.  $98\frac{3}{5}^{\circ}$ ; respiration, a. m. and p. m. 20. Spray twice. 60 minims.

December 23rd. Slept all night. No cough. Bowels moved in the night and this morning. Jaundice still present. Appetite the same. Pulse, a. m. 96, p. m. 100; temp., a. m.  $98^{\circ}$ , p. m.  $99^{\circ}$ ; respiration, a. m. 20, p. m. 24. 40 m. Aseptolin and spray.

December 24th. Slept well. No cough until this morning, when she coughed once. Did not raise any. Bowels regular. Appetite good. Jaundice fading. Feels much better. Pulse, a. m. 96; temp.,  $98\frac{2}{5}^{\circ}$ ; respiration, 20. Spray.

December 24th, p. m. Took a nap of two hours this afternoon. Feels well. Ate better than usual. Bowels natural. Pulse, 100; temp.,  $99^{\circ}$ ; respiration, 24. Spray.

December 25th. Slept well. No cough until this morning, when there was a little. No phlegm came up. Appetite improving. Jaundice almost entirely gone. Pulse, a. m. 100, p. m. 120; temp., a. m.  $98\frac{4}{5}^{\circ}$ , p. m.  $98\frac{2}{5}^{\circ}$ ; respiration, a. m. 29, p. m. 24. 60 m. and spray twice.

December 26th. Slept well. Coughed very little. Patient says it is more of a hack to clear the throat. Raised a little. Bowels moved yesterday. Appetite good. Pulse,

a. m. 102, p. m. 108; temp., a. m. 98 2/5°, p. m. 98 2/5°; respiration, a. m. and p. m. 20. Spray twice. Sputa taken for examination.

December 27th. Slept well, but was wakened by the storm. A little hack; no regular cough. Raised a little. Says the phlegm seems to come from the back of the nose rather than from below. Bowels regular. Appetite good. Pulse, a. m. 108, p. m. 96; temp., a. m. 99°, p. m. 99 1/5°, respiration, a. m. 22, p. m. 20. 40 m. and spray.

December 28th. Slept well. No cough. Raised a very little. Had a little pain through the center of the chest. Was not severe. The pain jumped from one place to another. Bowels regular. Appetite good. Pulse, a. m. and p. m. 100; temp., a. m. and p. m. 99°; resp., a. m. and p. m. 20. Spray twice.

December 29th. Slept well. No cough. Bowels regular. Appetite as usual. Pulse, a. m. 112; temp., a. m. 99°; resp., a. m. 20. 40 m. Aseptolin and spray.

December 30th. Slept well. Did not wake once. No cough. A little hack this morning. Raised a little. Bowels moved twice yesterday. Patient looks much better and brighter, with skin clear, eyes bright and more color in lips. Pulse, a. m. 104; temp., a. m. 99 1/5°; resp., a. m. 22. Spray.

December 31st. Slept well. Waked by the storm. A little cough this morning, from the tickling in the throat. Did not raise any. Still has some shifting pains. Bowels regular. Appetite good. Pulse, a. m. 96., p. m. 104; temp., a. m. 98 2/5°, p. m. 100 3/5°; resp., a. m. 22., p. m. 20. 40 m. and spray. Gone out walking every day.

January 1st, 1896. Slept well. Coughed before going to sleep, and this morning coughed and raised a little. Pains lessening. Bowels moved yesterday. Appetite improving. Was hungry when she woke up. Pulse, a. m. 98, p. m. 120; temp., a. m. 99°, p. m. 100 2/5°; resp., a. m. 20, p. m. 22. Spray.

January 2d. Slept well. No cough in the night. A little this morning. The tickling in the throat still continues. Bowels moved. Appetite good. Walked about three

blocks yesterday and was not tired. Pulse, a. m. 100, p. m. 104; temp., a. m.  $99\frac{1}{5}^{\circ}$ , p. m.  $100^{\circ}$ ; resp., a. m. 20, p. m. 22. 100 m. and spray.

January 3d. Slept well. Thinks she woke once, but is not certain. No cough in the night, but a little this morning. Bowels regular. Appetite good. Feels stronger and does not tire in walking. Pulse a. m. 100; temp., a. m.  $99\frac{1}{5}$ , resp., a. m. 20.

January 4th. Slept well. A little cough this morning. When the tickling comes in the throat she coughs. Raised very little. Bowels regular. Appetite strong. Went out yesterday and took dinner with a friend, and was not tired. Had to walk up hill coming home, and did not get out of breath. Pulse, a. m. 100, p. m. 104; temp., a. m.  $99\frac{2}{5}^{\circ}$ , p. m.  $101^{\circ}$ ; respiration, a. m. 22, p. m. 24. 100 m. and spray.

January 5th. Slept well. Coughs very little. Bowels regular. Appetite excellent. Pulse, a. m. 100; temp., a. m.  $99^{\circ}$ ; respiration, a. m. 20. Spray.

January 6th. Slept all night. A very little cough just before she went to sleep. Raised very little. Bowels regular. Appetite good. Was weighed yesterday afternoon and weighed 112 lbs., a gain of 12 lbs. since the treatment began. Pulse, a. m. 112; temp., a. m.  $98\frac{3}{5}^{\circ}$ ; resp., a. m. 20. 100 m. Aseptolin and spray.

January 7th. Slept well, but dreamed. Coughed once during night and a little before going to sleep. Is a little "wheezy" this morning when she breathes. Bowels moved. Appetite good. Pulse, a. m. 104, p. m. 112; temp., a. m.  $98\frac{1}{4}^{\circ}$ , p. m.  $98\frac{3}{5}^{\circ}$ ; resp., a. m. and p. m. 20. 100 m. and spray.

January 8th. Slept well. A little cough last night, but not so much this morning. Bowels regular. Appetite good. Pulse, a. m. 104, p. m. 104; temp., a. m.  $98\frac{2}{5}^{\circ}$ , p. m.  $100^{\circ}$ ; resp., a. m. 19, p. m. 22. 100 m. and spray.

January 9th. Slept well. Very little cough. Raised a little more than usual. Says she has a stuffed-up feeling in the head, and there seems to be a dropping from the poster-

ior nares. Bowels regular. Appetite good. Ordered to begin again taking cod liver oil, which has been stopped since she had her attack of icterus. Pulse, a. m. 100, p. m. 104; temp., a. m.  $98\frac{2}{5}^{\circ}$ , p. m.  $99\frac{1}{5}^{\circ}$ ; respiration, 20. Spray.

January 10th. Slept well, waking once and coughing a little. During the day she says she is a good deal better, rarely coughing any. A little at night and at bedtime. Bowels regular. Appetite good. Pulse, a. m. and p. m. 108; temp., a. m.  $98\frac{3}{5}^{\circ}$ , p. m.  $99\frac{2}{5}^{\circ}$ ; respiration, a. m. and p. m. 20. 100 minims Aseptolin and spray.

January 11th. Slept well. Coughed once in the night. Hadn't any cough this morning. Raised very little. Bowels regular. Appetite good. Taken and borne the oil well. Pulse, a. m. 100, p. m. 104; temp., a. m.  $98\frac{2}{5}^{\circ}$ , p. m.  $99^{\circ}$ ; respiration, a. m. and p. m. 20. Spray.

January 12th. Slept well. Coughed a little toward morning. Raised very little. Says cough is much better. Bowels regular. Appetite good. Pulse, a. m. 96, p. m. 100; temp., a. m.  $98\frac{2}{5}^{\circ}$ , p. m.  $98\frac{4}{5}^{\circ}$ ; respiration, a. m. and p. m. 20. 100 minims and spray.

Dr. MacFarlane reports he found a few bacilli in the sputa. It is considered probable that these may be from infection by her sister. The Aseptolin will be used every day for a week, and examination of the sputa will then determine its further employment.

January 13th. Slept well. Had no cough all day yesterday or last night. Woke about 5 a. m. and coughed a little. Raised very little. Bowels regular. Appetite good. Pupils normal. Weighed yesterday, and weighed 116 lbs., a gain of four lbs. this last week, and 16 since treatment commenced. Pulse, a. m. 100; temp., a. m.  $98\frac{2}{5}^{\circ}$ ; respiration, a. m. 20. 100 m. and spray.

January 14th. Slept well. Did not cough any in the night; a little just before going to sleep and again upon waking. Hardly raised any. Bowels and appetite excellent. Pulse, a. m. 100, p. m. 104; temp., a. m.  $98\frac{2}{5}^{\circ}$ , p. m.  $99\frac{1}{5}^{\circ}$ ; respiration, 20. Spray.

January 15th. Slept well, better than any night since being taken ill. Did not cough any yesterday; just a little this morning. Raised very little. Bowels and appetite good. Pulse, a. m. 106; temp.  $98\frac{2}{5}^{\circ}$ ; respiration, 20. 100 minims and spray.

January 16th. Slept well. No change in the night or this morning. A little coughing before going to sleep. Bowels and appetite good. Pulse, a. m. 100, p. m. 108; temp., a. m.  $98\frac{2}{5}^{\circ}$ , p. m.  $99\frac{1}{5}^{\circ}$ ; respiration 20. 100 minims and spray.

January 17th. Slept well. Coughed a little yesterday and last evening. Raised very little. Bowels regular. Appetite excellent. Pulse 100; temp.,  $98\frac{2}{5}^{\circ}$ ; resp., 20. Spray.

January 18th. Slept well. No cough yesterday or last night. Coughed once this morning. Raised very little. Bowels regular. Appetite good. Pulse, a. m. 100; temp.,  $98\frac{4}{5}^{\circ}$ ; resp., 20. 100 m. and spray.

January 19th. Slept well. No cough yesterday; a little this morning. Did not raise any. Bowels regular. Appetite good. Pulse, a. m. 100; temp.,  $98\frac{4}{5}^{\circ}$ ; resp., 20. 40 m. and spray.

January 20th. Slept well. Coughed when she woke up. Raised very little. Bowels regular. Appetite good. Pulse 100; temp.  $99^{\circ}$ ; resp., 20. 40 m. and spray. Patient was weighed this morning, and has gained  $\frac{3}{4}$  lb. the last week, the total gain since treatment began being  $16\frac{3}{4}$  lbs.

The following brief reports are of the results obtained by Dr. Balch in the other cases treated with Aseptolin by him :

No. 1.—F. B. Acute phthisis. Began treatment Nov. 28; lungs all clear; has gained 21 lbs. in weight; discharged cured.

No. 2.—M. B. Acute phthisis and pneumonia. Began treatment Nov. 28; died Feb. 9.

No. 3.—E. K. Acute phthisis in advanced stage. Began treatment Dec. 2; died the 24th.

No. 4.—E. McL. Acute phthisis, second stage. Began treatment Dec. 9; much improved and gaining steadily.

No. 5.—E. E. B. Chronic phthisis. Began treatment Dec. 26; discharged improved Feb. 22 as, he went to California.

No. 6.—B. D. Acute phthisis. Began treatment Jan. 10; stopped coming March 10; had gained 8 lbs. and was almost well.

No. 7.—J. H. Acute phthisis, second stage. Began treatment Jan. 22; has improved greatly, but is very irregular in attendance; both lungs involved, and left is now almost entirely normal.

No. 8.—Mrs. M. Fibrous phthisis, chronic. Has improved a great deal, cough and breathing being much better; began treatment Feb. 10.

No. 9.—C. H. Acute phthisis, second stage. Began treatment Feb. 10; has improved somewhat but is irregular in attendance.

No. 10.—J. T. Acute phthisis, second stage. Began treatment Feb. 13; has improved greatly.

No. 11.—Mrs. T. Acute phthisis, third stage. Began treatment Feb. 13, but gave up Feb. 20; no improvement.

No. 12.—E. R. Acute phthisis, second stage. Began treatment Feb. 13; has improved but little.

No. 13.—J. R. Acute phthisis, third stage, advanced. Began treatment Feb. 13, and has been helped but is now failing rapidly.

No. 14.—J. B. Acute phthisis, third stage, advanced. Made two visits and was advised not to come again. Died within three weeks after having been seen. Called first on Feb. 17.

No. 15.—C. R. Acute phthisis. Began treatment Feb. 17, but stopped coming after third visit; no result.

No. 16.—M. C. A. Acute phthisis, third stage. Began treatment Feb. 19; the diarrhoea present was stopped by the treatment, but patient did not improve, and gave up treatment on March 13.

No. 17.—E. A. Acute phthisis. Began treatment Feb. 24; is improving rapidly.

No. 18.—H. F. Acute phthisis, second stage. Began



treatment Feb. 26; is now beginning to improve, but up to present date has gained but little.

No. 19.—C. E. R. Acute phthisis. Began treatment Feb. 28; March 20, patient discharged cured, as examination showed lungs to be normal.

No. 20.—A. H. L. Acute phthisis, fibrous. Began treatment March 3, and was nearly well in two weeks, when an attack of acute diarrhoea came on which was not tuberculous; is now gaining again; the lungs have not lost any and are nearly normal.

No. 21.—F. S. Chronic phthisis. Began treatment March 8; remained two weeks, when he had to return home on account of his business; gained  $2\frac{1}{2}$  lbs. in flesh, and was much improved in general condition; lungs were clearer; is continuing treatment with his local physician.

No. 22.—F. Van A. Acute phthisis, second stage, advanced. Began treatment March 8; is somewhat improved and still under care.

No. 23.—J. E. S. Acute phthisis, second stage. Began treatment March 6; is wonderfully improved and has gained 9 lbs.; both lungs were involved; the left is now clear, and the right almost so.

No. 24.—J. B. Acute phthisis. Began treatment March 23; improving.

No. 25.—C. S. Acute phthisis. Began treatment March 23; improving; has gained 2 lbs.

No. 26.—Miss DuB. Acute phthisis, second stage and advanced. This patient was at Lake Saranac, but was not improving. Began treatment March 10; improving.

No. 27.—J. F. Acute phthisis. Began treatment March 28.

These cases may be summarized as follows :

Discharged cured, - - - - -	2
Will be discharged cured, - - - - -	6
Improved but too soon for prognosis, - - - - -	18
No result, - - - - -	1
No material improvement, - - - - -	3
Deaths, - - - - -	2
Too far advanced for treatment, - - - - -	1
Too soon to report, - - - - -	1

Some of the above appear in two divisions, as the same person is improved and cured.

Dr. Balch has also written as follows: "A woman in Wachita, Kansas, has written to me. It appears she has been using Aseptolin on herself, for eczema. She read the accounts in the daily press, and made up her mind she would try the fluid. She reports a persistent slough—or sore, as she describes it—which has eaten its way 'down to the bone.' Of course, I wrote to her not to treat herself any longer, and to apply to the best physician she knew of, as soon as possible. It seems a friend of hers had sent her an Albany paper in which my name was published; hence her letter to me."

I reprint this extract because it enables me to emphasize the extreme danger which threatens when patients treat themselves. The Aseptolin treatment is not one which persons unlearned in medical science can give. Its success depends largely on the work done by the physician in charge of the case, which is supplemental to the administration of the fluid itself. Symptoms of undesirable effects must be watched for, as only a physician can. It is, in my opinion, folly for any patient to attempt to use it, and I never have, nor shall I ever, encourage any such thing.

The following cases were among those in my own practice.

E. A., age 28, male. Brother has phthisis, otherwise family history good. Has never weighed over 115 lbs. Five feet six inches in height.

Diagnosis: phthisis pulmonalis. Duration of illness, according to patient, is since March, 1895, probably of longer duration. Right lung consolidated and atrophied. Small cavity in upper part of right lung; apex of heart on right side under right nipple; left lung emphysematous. Right side of chest flat, intercostal spaces depressed. Left side bulges, giving patient one-sided appearance. Heart evidently crowded over by emphysematous right lung.

Treatment, prior to Aseptolin injections, consisted of creosote, liquid food, climatic change to North Elba, New

York, where patient has been for three months, and gained rather than lost ground. Upon return to the city in September, however, he rapidly declined. No night sweats. About two ounces of muco-purulent sputum. Extremely short of breath. Severe cough. Appetite poor. Insomnia. Indigestion. Aseptolin injections commenced, and spray as described in other cases, October 15th, 1895, and continued daily up to November 20th. During this period patient gained four pounds in weight. Appetite improved. Says his cough is much better. Coughs but little. Sputum contains a few bacilli. Is much stronger, able to take considerable exercise in the open air. Does not complain so much of shortness of breath. Digestion is excellent.

In November, patient began to complain of loss of appetite, nausea, which during four days progressively grew worse. Stopped all treatment and sent him to Atlantic City for three days. Upon his return he appeared much better and treatment was resumed. During the attack of nausea just mentioned the patient lost three pounds in weight.

Upon resuming the treatment patient was injected, first every third day for about two weeks, then every other day, patient receiving 120 minims Aseptolin daily. He has continued to improve, and has gained eight pounds in weight at present writing, and I expect a favorable result.

To date, May 1st, the improvement has steadily continued. He has his normal weight; there are not, and have not been for a long time, any bacilli in the sputa; he appears well, has a quick, lively way of moving about, and his complexion is rosy and healthy. He has been away from the city on a number of short trips, which have seemed to do him good. During March he contracted a very severe cold, but this yielded readily to treatment. There was no increase in symptoms of phthisis at this time, although the most searching examinations were carried on.

J. H., male, 17 years. Normal weight 120 lbs., December 2d, present weight 107 lbs. Cough very severe; expectoration muco-purulent, about two ounces daily. Bacterial examination by Health Department shows presence

of tubercle bacilli, number not stated. Evening temperature 103° F. Diarrhoea. Loss of appetite. Breathing hurried on slightest exertion. Physical examination shows extensive consolidation of upper and middle lobes of right lung and evidences of commencing disease in apex of left lung; no cavities. Has had creosote treatment. Has been confined to bed for one week prior to commencement of Aseptolin treatment. Patient was very anæmic, and had a grayish, green color, appearing very sick and weak. Says he has chills daily, but at irregular times.

The treatment as generally outlined. A very marked and quick improvement. His appetite was regained. Cough improved, and expectoration diminished. His complexion shows a marked change for the better. He has lost his pallor and regained a healthy color. His mucus membrane shows he is still anæmic, but very much less so than formerly. His diarrhoea has persisted notwithstanding his first treatment for it, bismuth, opium, acetate of lead, and latterly his appetite has been affected. During the second week of treatment the patient gained three lbs. in weight, but has since lost this gain and two lbs. additional, making a total loss of five lbs. during treatment. His home surroundings are not good. He is too poor to obtain more than the bare necessities of life.

This patient died of phthisis on March 28th.

N. C., female, 13 years. Weight about 70 lbs. Family history of phthisis. Sister died under the disease. This child was brought into New York for treatment by her father December 3d. Her condition was one of advanced tubercular disease of the lungs. As nearly as could be ascertained she had been sick about a year. A large cavity, surrounded by a zone of consolidation, the latter involving nearly the entire right lung, could be made out under the second intercostal space. She was profoundly anæmic, had several severe hemorrhages during the last month, expectoration very profuse, loaded with bacilli and streptococci. Temperature, taken in the morning, 102° F. Respirations very hurried. Pulse rapid and weak, 110 to 130, varying

between wide limits on the least exertion. I considered her condition very precarious, but decided to give her treatment for one week, and for this purpose put her in the hands of Dr. D. F. Linehan. 100 minims Aseptolin were given daily, and the spray described in the preceding cases. Nutrient treatment was also prescribed. The girl had to be carried to the doctor's office in the arms of a friend.

Her surroundings were as bad as they could possibly be. Her father, a poor New Jersey farmer, left her alone in a cheap lodging house in West 16th Street. She had to go to a wretched restaurant of the poorest class three blocks away for her meals, to which, at first, she had to be carried. She was a meek, retiring, afflicted little thing, the very personification of suffering and misery. Taken from her country home and planted, sick almost to death, alone in the place I have described, it seemed especially remarkable that she should have improved as she did. In the week during which she was under treatment she gained a little over two pounds in weight, her cough diminished fully one-half, and expectoration was much less. Her temperature at the point on day of last treatment was 99.2°. She could walk between the boarding house, horse cars, and the doctor's office, a distance involving a walk of about four blocks. I succeeded in obtaining a continuance of the treatment for her at a town near her home, and have not since heard how she is doing.

H. C., male, 28 years old. Normal weight about 160 lbs., present weight 145 lbs. Consolidation of upper left apex; no apparent loss of lung tissue. Patient says he has had cough and expectoration for about a year. Family history good. Occasional night sweats. Has lost weight very gradually. Chronic bronchitis with expectoration of about an ounce of muco-purulent matter. No fever. Respirations normal, but sputum contains tubercle bacilli and streptococci. Treatment commenced December 2d, same as outlined in Case 1. It was continued for thirty days, and after second week patient did not cough nor raise. In this period he gained six pounds in weight, and

was discharged from treatment with orders to report weekly. He reported January 5th. No change in his condition.

He reported again in February, March and April and there was no change. He is apparently well.

W. J. A., age 24, male. Normal weight 145 lbs., present weight 121 lbs. Family history, good.

His disease commenced two years ago in May with an attack of bronchitis. Loss of flesh has been gradual. Has night sweats, severe cough, expectoration, a large amount of muco-purulent loaded with tubercle bacilli. Loss of strength; rapid breathing. A large cavity and extensive consolidation in upper apex and left lung. Evening temperature  $102\frac{1}{4}^{\circ}$ . He had received creosote treatment, with cod liver oil, quinine, and guichol. Subsequent treatment commenced December 1st, 1895, and 100 minims of Aseptolin and spray administered daily.

December 10th. Stronger. Appetite much improved. Cough and expectoration much less. No night sweats or fever since 3d day of treatment. Fewer bacilli in sputum. No change apparent in physical signs.

December 21st. Improved health; no change in general condition since December 10th, except a gain in weight of five lbs.

January 1st. Patient coughs but little and raises, perhaps, about one-half ounce of mucus. Has gained three lbs. more, making eight lbs. since the treatment was commenced. Physical signs improved. This patient is still under treatment. His sputum still contains a few bacilli, but he himself, however, declares he is cured.

The patient holds the improvement to date, May 1st. He is still under treatment, taking the spray, injection and inhalation once a week, and an inhalation of the phenol solution twice a day at home, using a hand atomizer.

J. M., male, 27 years. Sister died of phthisis at age of 22. His normal weight is 145 lbs. Sickness followed an attack of grip, February 8th, 1893. He rapidly lost weight and strength at this time which he has not regained. Short-

ness of breath. Night sweats ; fever. He has had creosote and cod liver oil. Raises about three ounces of muco-purulent matter every 24 hours. This contains large numbers of tubercle bacilli. Evening temperature, 102.2°; morning temperature, usual. Normal appetite, and digestion poor.

Physical examination shows an area of consolidation involving upper and middle lobes of right lung. Dulness on percussion both over lower right lung and apex of left.

November 15th. Patient shows very great improvement in general condition. No night sweats since 9th. Has gained 2 lbs. in weight. Is stronger and able to take outdoor exercise. Has no rise of temperature. Eats well and digests his food. An improvement was first noted on the 4th day of treatment. Amount of sputum has diminished 75% and contains but few tubercle bacilli ; cough is greatly improved.

November 30th. Patient has had no ill effects whatever from continued treatment of 100 minims Aseptolin daily, with iodoform and ether spray. Aseptolin has also been administered by means of the globe inhaler. These vaporized inhalations have been given daily. No bacilli in the sputum. Raises but little, scarcely enough for specimen. Coughs only a little in the morning on rising, except an occasional hack, rather croupy in character, during the day. An even respiratory murmur where formerly physical signs showed roughness of breathing. This patient resumed his occupation (commercial traveler), and will report January 3rd. Treatment discontinued until that time.

January 3rd. Patient has returned from trip to Pittsburgh, Cincinnati and St. Louis, but coughs slightly more than when he left New York, and raises a little more. No tubercle bacilli, however, are to be found in the expectoration. 150 minims Aseptolin, and iodoform and ether spray, and globe inhaler, with 2% of creosote. He leaves to-morrow for another trip and returns about January 28th.

The patient reported for treatment on Feb. 3d. He was attacked by acute bronchitis while away, and when I saw him in my office I found he had completely relapsed, the phthisis being as serious as ever. Two weeks, treatment

improved him nearly to the point at which he was prior to the attack of bronchitis, but beyond this it seems impossible to go. Since this second treatment began he has not apparently lost ground, but he has not gained as he did at first.

The following case in my own practice is the only one in which I have personally tried Aseptolin in pneumonia.

A. B. sent for me on the 7th of March. Examining him, I found fever and a localized pneumonic inflammation about as large as the palm of my hand in the lower lobe of the right lung. The symptoms were typical. I gave him 240 minims of Aseptolin and prescribed remedies to make the coughing a little easier. The following evening Dr. Linahan examined him, and found the area of the inflammation diminished to the size of half a dollar. On March 9th, Dr. W. H. Pulley examined him most carefully but could find no symptoms of pneumonia. He had bronchitis, for which Dr. Pulley treated him for about two weeks. In this case nothing was done for the pneumonia except giving the Aseptolin, and the disease was wholly aborted. As will be seen further on, other physicians have used the Aseptolin in the same disease with similar results. I should not myself trust to it were the disease in the second stage, but I have confidence in it as a remedy when the pneumonia first appears.

The following case in my own practice is typical of the operation of Aseptolin when septic absorption is threatened. The patient, a physician, during some work in the laboratory became accidentally inoculated in the arm with septic matter. After a short period of incubation symptoms of septic absorption showed themselves in repeated rigors, stiffness of the muscles of the neck and jaw, and in lesser degree in those of the trunk and limbs. The glands at elbow and axilla became enlarged and tender, the temperature keeping at about 103° Fahr. A large phlegmon rapidly formed in the forearm about the site of the infection. Under doses of 250 M. of Aseptolin these symptoms disappeared but the high temperature, headache and general malaise per-



sisted. Though it was thought necessary to open the arm in order to drain the pus which formed, very little was found. Doses of Aseptolin were continued, and at the end of three days the arm healed up, the headache and general malaise disappeared and the temperature once more became normal. At no time did the temperature rise above 103°. In this case the preliminary symptoms of septicæmia were typical, yet the disease threatening appeared to have been aborted by the Aseptolin.

The following letter from Dr. Rufus P. Lincoln will be found of interest :

22 WEST 31ST ST., NEW YORK, May 13th, 1896.

MY DEAR DOCTOR :—

In reply to your request for an estimate of the result upon my patients of the use of Aseptolin, it gives me pleasure to submit the following :

To formulate an opinion of the effect in cases of pulmonary and laryngeal phthisis of a remedy that theoretically ought to be of service, and practically sometimes appears to be, after an experience of only six months, is, I fear, premature. But the continuance of a remedy, even for that period, would be inconsistent did I not feel the improvement in the conditions of most of these patients was in some measure to be attributed to its influence ; how much, I am not prepared to assert.

To explain the indefiniteness of my conclusion, I should state that all those that have received the injections at my hands have been private patients, and as its true value in tuberculosis has not yet been established to my satisfaction, I have not felt justified in limiting my treatment to its exclusive use.

To combat the specific feature of this disease I had reached the conclusion, from personal observations and the testimony of others, that inhalations of carbolic acid and the exhibition of creosote in its various forms, and in different ways, were our most effective weapons.

When the composition of Aseptolin was explained to me,

the possibility of its effect being similar through avenues not available by this class of remedies naturally appealed to me. I began the administration of the fluid Dec. 2nd, in addition to other treatment, please remember, in four cases, and soon added to this number till twenty now comprises my list. In only one instance, that of acute tuberculosis, have I voluntarily abandoned it. All the others improved while under treatment, gaining in flesh and strength coincident with local improvement, one having gained from 148 lbs. to 196 lbs., and to every test now seems cured.

The only unpleasant effects in my experience have been a transient headache in three instances.

At the present time I feel there is encouragement to believe we have in Aseptolin a remedy but not a specific for tuberculosis.

Very truly yours,

R. P. LINCOLN.

Dr. J. B. Ransom, the physician in charge of Clinton Prison, Dannemora, New York, is well known as an authority on all matters connected with the health of convicts or with prison hygiene. He is the author of many standard papers on these subjects. Convicts are peculiarly subject to tuberculosis, and Dr. Ransom was among the first to try Aseptolin. His letter is, I think, of the greatest value, and no one that I have received has been of more interest to me.

DANNEMORA, N. Y., May 5th, 1896.

CYRUS EDSON, M. D.,

24 Whitehall St., New York City, N. Y.

Dear Doctor: In replying to your note of enquiry, asking my impression of Aseptolin, etc., I may say that the use of Aseptolin with me only began on February 21st, 1896, and therefore I am not in position to make any statement relative to its ultimate curative properties in pulmonary tuberculosis, or to state to what extent it may be effective in the destruction of the tubercle bacilli. Sufficient time has not yet elapsed to make any positive statements, or come to any definite conclusion in this regard; especially in a

disease which is so large a causative factor in the suffering and death of mankind and the cure of which means so much to society in general, and particularly where so much harm might be done by previous and ill-advised statements. This means more than simply announcing a new remedy—if positively curative—it means a revolution in therapeutics.

A rather large experience in tubercular disease, numerically speaking, has taught me that remedies exhibited in its treatment must be subjected to the test of time, and the closest scrutiny, before anything like valuable data can be obtained, or correct conclusions drawn. I will, therefore, confine myself to statements relative to some features of the action of Aseptolin as observed by me in the treatment of the cases enumerated below.

The use of Aseptolin was begun at the time stated with four cases, and that number has been gradually augmented, until the whole number treated has now reached fifty-seven.

In order to test the range of application of the remedy, different types of tubercular and septic diseases were selected for treatment. Thus, of the fifty-seven cases, three were acute pulmonary phthisis; fourteen were recent; thirty-two chronic; one tubercular pleurisy; one chronic tubercular peritonitis; two glandular tuberculosis; two tubercular diseases of the bones; two suppurative diseases of the bladder.

Of the fifty cases of pulmonary disease, all had suffered from hemorrhages except nine, and all sputa examined showed bacilli, and of the fifty-seven cases, five showed albumen in urine.

Desiring to obtain accurate data, the history of the patient was taken, and a minute daily record of all symptoms and effects of treatment kept, and to determine as near as possible what the effects of this treatment was of itself alone, no changes were made in the habits, diet, or medication of the number treated, other than to stop the creosote treatment upon which many of them then were. My idea was to determine just how efficient phenol might

be in the treatment of tubercular disease, therefore no iodoform and ether spray was used, but instead a 3% solution of phenol; and also to determine just how far the improvement noticed might be due to psychical effect of the treatment, experiments were instituted with distilled water injections and spray, and carried out without the knowledge of the patient or attendants; in fact, all means at our command were used to eliminate error and assist in forming correct conclusions.

I shall not attempt in this letter to be technical, or to go into details, but simply give a brief outline of observations. The general effects produced by the injection of Aseptolin as noted by me were: 1st. The regulation of the heart's action. 2nd. Reduction of temperature. 3rd. Stimulating tonic to the nervous and muscular systems. 4th. Sleep producer. 5th. Improves appetite and digestion, and increases weight. 6th. Lessens cough and night sweats. 7th. Tends to lessen the elimination of albumen.

One of the most constant and decided effects of the Aseptolin injection is upon the circulation. This effect was very pronounced, and manifested itself in an increased color of the skin, ears and lips, and a general reduction of pulse beats, with increased volume and regularity. In several of the cases, where the pulse was at the time of the first injection registered at 100 or more beats, by the time the third injection was given was reduced to 72. In nearly all cases the pulse was brought to about the normal.

Aseptolin in my hands has been a heart regulator of unquestionable value. As before intimated, thinking that some of these effects might arise from the mental impression, carefully prepared arrangements were made for injecting distilled water without the knowledge of patient or attendants. Three patients in different stages of tubercular disease were chosen, and treated with the water injections.

These patients, however, showed no improvement in the circulation, and the pulse-beat remained unaltered, and the patients, contrary to the usual testimony, insisted that they

were no better. After several injections of water, Aseptolin was given without their knowledge. After second injection, the pulse-rate was lowered, and general improvement was noticed, and the patients forthwith insisted that they were better, and improvement followed in the usual way thereafter. The use of the water injection went to show that the psychical effect was very slight in this treatment.

In all my cases the temperature was reduced in some degree, and in most cases to the normal, from the use of Aseptolin, although the effect upon temperature in acute cases was not so pronounced as upon pulse-rate. One of the most notable effects of Aseptolin was the effect upon the cerebro-spinal and vasa-motor systems. By the time the second injection is given, the patient usually has a feeling of exhilaration, and by the time half a dozen are given, a decided improvement in general muscular tone obtains. Some of my patients who could scarcely drag themselves up upon the operating table, would, after half a dozen injections, spring lightly upon it, and two or three were so vitalized that they indulged in fistic combats. This feeling of buoyancy was marked in nearly all cases.

With few exceptions the Aseptolin has acted as a hypnotic of no small power; as the general testimony of those taking the treatment went to show that, as a rule, they rested much better than before treatment.

The effects upon the appetite, assimilation and nutrition is manifest in the increased strength and bodily weight. While this latter is not a constant result, most patients gain weight, and some of them markedly.

In regard to the treatment of pulmonary tuberculosis, I would say, that I am treating three cases in the acute form, and the result has been an improvement in the general condition, lowering of temperature, and clearing up of consolidated areas, lessening of cough and night sweats, improvement of appetite and sleep. The treatment, however, is not yet sufficiently progressed in these cases to warrant any conclusions. Of the fourteen recent cases of tubercular phthisis treated, three are apparently cured, eight are im-

proved, one is indifferent, two have been too short a time under treatment to give results. Of the chronic cases, two are indifferent, thirty are improved. Several of these cases, however, are to all appearances cured, and are healthy looking men. The improvement consists in an almost entire cessation of cough and expectoration, lowering of temperature, regulation of pulse, increased weight, clearing up of consolidations, increased chest capacity, and general good feeling.

The one case of tubercular pleurisy was first aspirated and thirty ounces of fluid removed. The patient did not do well, however, until Aseptolin treatment was begun, when improvement immediately began, and the result was, on discharge from prison after 17 injections, the man was very much improved, and the pleura and lung fast assuming a normal condition. The case of peritoneal tuberculosis has done exceedingly well, and the patient is apparently as well as ever, and has gained 7 lbs. The glandular cases have also improved, and the enlargement of the glands is disappearing.

After treatment in most cases it is difficult to obtain sputa for examination, but where obtained the number of bacilli are very much lessened and attenuated.

One of the two cases of disease of the bones is somewhat improved, and the other, a case of Pott's disease, is one of particular interest. This man suffered from caries of the dorsal vertebræ with burrowing abscesses. These abscesses were opened up and sinuses laid open and packed, but in spite of all treatment for 18 months, these sinuses discharged a large amount of fetid pus, which was increasing at the time of the beginning of the Aseptolin treatment. This man also showed a large percentage of albumen and pus in his urine, and was generally anasarcaous. With great caution the Aseptolin treatment was begun, and by the time that the patient had had 16 injections all discharge ceased; the patient was in every way improved. No discharge has been noticed except a slight serous one since that day.

The two patients suffering from suppurative disease of the bladder have shown remarkable improvement, one of them gaining 9 lbs., and in every way improved; the other, with multiple perineal abscesses from urinary extravasation, and in a very feeble condition, immediately improved under the Aseptolin treatment, all the sinuses drying up after twenty-nine injections, and remaining so, and the patient has gained  $17\frac{1}{2}$  lbs.; and his general condition becoming such that an operation was done for the relief of imperforate stricture, which had long been delayed because of his inability to endure the operation.

Of the five cases having albumen in the urine, in three the albumen entirely disappeared, and in the remaining two it has greatly lessened under the treatment. The treatment of these cases showing albumen was applied with great caution, until it was found that every one improved under it. While I can conceive of cases of albuminuria where Aseptolin would be contra-indicated, the presence of albumen has as yet been no bar to good results in my cases.

It will be seen, by the cases cited, that Aseptolin is a powerful antiseptic, and the results of its use in septic conditions are most happy. Indeed, I am perfectly satisfied that it is an efficient remedy in septicæmia, and especially is this action manifest in the secondary suppurative processes of advanced phthisis, all septicæmic symptoms rapidly abating under its use. Sufficient time has not elapsed to make positive statements as to its curative powers in tubercular disease, but enough has already been demonstrated to show that it is a remedy which, if properly used, has a constant and prompt action in the relief of many heretofore troublesome conditions, which often baffled our best efforts to relieve with the usual remedies. Time and extended experiment can alone define the limits of its action, and establish its true value in the realm of therapeutics.

Very truly yours,

J. B. RANSOM,

Physician to Clinton Prison, N. Y.

Dr. Conant Sawyer, the noted physician in charge of the State Prison at Auburn, N. Y., writes he has six cases of phthisis among the convicts, on whom he is using Aseptolin. In his letter Dr. Sawyer says: "The first thing I noticed in these patients after commencing the treatment was the increased appetite which was followed by the disappearance of all pain in the chest. Then they began to sleep well at night without the customary narcotic, and it was noticed they could sleep on either side, which they could not before. The cough got less and less and finally disappeared. Now they have no night sweats, and the sputa are no longer muco-purulent.

The following cases were reported by Dr. D. F. Linehan.

CASE 1.—W. S. U., age 22, male. Diagnosis: phthisis pulmonalis. Duration of illness, two years. The sputum was examined by Dr. Frank Ferguson and found to contain a large number of tubercle bacilli.

Condition prior to treatment with Aseptolin: Small area of consolidation at apex of right lung. Mucous click heard at the beginning of expiration, also sub-crepitant râles heard more distinctly posteriorly of left lung at apex. Exaggerated respiration over right lung.

Treatment prior to Aseptolin treatment: Was treated for indigestion and bronchitis, and also cod liver oil was given.

Date of commencement of Aseptolin treatment, December 4th, 1895.

Result: After a month's treatment with Aseptolin and spray of iodoform and ether, the patient's general appearance has changed very much. He is able to attend to his business. The cough has almost ceased. The night sweats have become more infrequent and less troublesome in character. Before treatment the patient was unable to undergo slight exertion without manifest symptoms of distress. Now he feels as strong as ever. The weight has not increased, but as the patient had only lost six pounds during two years of illness very little was looked for in this direc-



tion. A slight hemorrhage occurred at end of second week. This is not unusual, as I have found in my other cases.

The physical signs at present, January 6th, are as follows: The area of consolidation is still marked. The sub-crepitant râles have entirely disappeared. A mucous click can be heard, not constantly, when the patient coughs. I shall have the opportunity of observing this case for some time, but think the improvement will be permanent.

Case I. was seen the last time about four weeks ago; he was then suffering from an attack of appendicitis; the lungs still showed a chronic process going on, but all subjective symptoms have disappeared, and the patient considers himself in good health up to present attack of appendicitis.

CASE 2.—A. R. H., age 26 years, male. Diagnosis: phthisis pulmonalis. Duration of illness, 3 years.

Condition prior to treatment with Aseptolin: Has gradually lost weight, from 169 to 130 lbs. Night sweats. Cough. Sub-crepitant râles heard posteriorly. Cavity at apex of right lung. Slight dullness over right lung. Had daily rise in temperature.

Treatment prior to Aseptolin treatment: Cod liver oil, creosote, tonics.

Date of commencement of Aseptolin treatment, December 9th, 1895.

Results: The effects in this case were marked at once. The cough had been so annoying to the patient that he had avoided all places of amusement for the last year. He can now go wherever he pleases without feeling that his cough is the least obnoxious to himself or others. He sleeps well and does not cough during the night. The night sweats have ceased entirely. The gain in weight has been uniform, and, as far as physical appearance goes, there is a marked contrast to that which was present when he began the treatment. There was a slight hemorrhage after the twelfth injection, but this was followed by a feeling of relief rather than distress. There was a slight derangement of the stomach during the third week. This I find not unusual during course of treatment, but it can be remedied by dis-

continuing the injection and still spraying the throat with intra-bronchial inhalations.

CASE II. has gone to Texas by my advice, and still continues the treatment; from last report, about six weeks ago, everything was very encouraging, and patient says he still continues the treatment under local physician at San Antonio, Texas, and has gained ten pounds.

CASE 3.—C. H., age 24 years, male. Diagnosis, phthisis pulmonalis. Duration of illness, 10 months.

Condition prior to Aseptolin treatment: Had lost about 15 lbs. Cough. Night sweats. Slight rise of temperature daily towards evening. Tubercle bacilli present. Physical examination showed general bronchitis and sub-crepitant râles at apex of right lung.

Treatment prior to Aseptolin treatment. Tonics, cough mixture, change of climate, diet regulated, cod liver oil, creosote.

Date of commencement of Aseptolin treatment, December 10th.

Result: After treatment of three weeks' duration the bronchitis had entirely disappeared. A slight gain in weight. No night sweats. The temperature is only  $1\frac{1}{2}\%$  above normal, and the fever does not come daily as heretofore. The appetite has increased. The expectoration is less in quantity. The cough remains, and patient states he has observed no change in its frequency, but says that it is less racking in character.

Dr. Linehan adds: "I might state that this case is the least satisfactory among those which I thought were amenable to any treatment.

"The above cases are not selected, but the histories are those of patients as they came for treatment. I have altogether had fourteen cases under observation. The treatment has proved satisfactory in all except two, for whom no known treatment would be of any advantage, as the disease was too far advanced. These cases will be under observation for some time, and the results will be reported at a later date."

CASE 4.—W. L., age 29, male. Diagnosis, phthisis pulmonalis. Duration of illness, 5 months. Condition prior to treatment with Aseptolin: Cough very troublesome. The patient could not sleep at night. Night sweats. Daily rise of temperature to about 101°.

Treatment prior to Aseptolin treatment: Treated at John Hopkins Hospital. Advised to go to the Adirondacks.

Date of commencement of Aseptolin treatment, Jan 7th. Result: The night succeeding the first injection the patient had complete rest, and was not disturbed by the coughing.

This was the first time in four months the patient had enjoyed a night's rest. Cough has ameliorated, and is less racking in character. Appetite good. No fever and no night sweats. This treatment still continued.

CASE 5.—J. P., age 26 years, male. Diagnosis: phthisis pulmonalis. Duration of illness, 2 years. Condition prior to treatment with Aseptolin: Expectoration very profuse. Shortness of breath. Pains in chest and back. Never had night sweats. Had slight hemorrhages, one about every three months. Treatment prior to Aseptolin treatment: cod liver oil and maltine.

Result of Aseptolin treatment: The expectoration has diminished very much. Is able to exert himself without increased rapidity of respiration. Pains in chest have ceased. Has been under treatment three weeks, and has gained about two pounds each week.

CASE 6.—D. J. C., age 25 years, male. Diagnosis: phthisis pulmonalis. Duration of illness, 1½ years.

Condition prior to treatment: Cough very distressing and almost continuous. Got out of breath on slight exertion. Diarrhœa almost daily. Loss of weight about 15 lbs.

Treatment prior to treatment with Aseptolin: Cough mixture, cod liver oil and creosote. Was at health resort for three months.

The other cases also continue to remain in a satisfactory condition except Case VI. who has passed from under my observation.

Since the first report I have under treatment fifty-three

patients suffering from phthisis, all of whom were treated by Aseptolin and intra-bronchial inhalations.

In all these cases except four there were marked signs of improvement after four or five injections, and in most of the cases this improvement continued as long as the patient remained under observation. Although I have seen some breaking down of the tissue at the site of the injection in cases treated by other physicians, I have, myself, in over three thousand injections, never had the accident happen to one of my own cases ; and it is to be attributed to improper injection, *i. e.*, too superficial insertion of needle.

I now give the injections in the back instead of the abdomen, as nodulation is less likely to occur there, and ecchymosis, so frequent in certain patients when the injections are made into abdominal parietes, are seldom observed. Of the fifty cases treated, the two following histories are typical results.

A. A. B., age 29 years ; married ; male ; family history good ; was referred to me by Case I. and taken under treatment without any promise of success.

Had been under treatment at Seton Hospital, in the ward of the late Dr. Roosevelt, for three months. Physical signs well marked in both lungs ; had lost weight, from a normal weight of one hundred and thirty pounds to one hundred and eighteen ; night sweats ; fever ; pains in chest ; cough and profuse expectoration. For the first three weeks the result was practically nil, although the patient kept in the best of spirits, and showed such a confidence in the ultimate result of treatment that I kept giving the injections till the present time, May 7, 1896. He is now in a good condition ; the subjective signs, fever, night sweats and pain have entirely disappeared. The patient has resumed his business, and now weighs one hundred and twenty-seven pounds—within three pounds of his weight when in a perfectly healthy condition. Nutrient treatment was used to the fullest extent.

The physical signs have improved in character, but are still present.

CASE 2.—J. M., age 30; male; single; clerk. History good. Family history negative.

Physical signs: small cavity at apex of right lung; a general acute bronchitis.

Had been under physician's care for last eighteen months; had lost weight; no appetite; cough and night sweats, and was very much discouraged.

After three weeks' treatment the cough and night sweats had ceased, appetite had returned, and patient said he felt as well as ever. In this case I found, on physical examination, that objective signs had kept pace with patient's improvement. The general acute bronchitis was not found, and the small cavity at apex of right lung was not discoverable by auscultation—apparently filled up. This case is the most satisfactory I have had as regards the improvement in physical signs.

The patient is still under observation, and I trust there will be no relapse.

May 7, 1896.

Result: Cough greatly improved. Diarrhoea has ceased. Is now able to exert himself without feeling faint. Weight has increased. The patient now feels and looks better than he has for years.

The following case of N. B., reported by Dr. Brandt, of Hastings-on-Hudson, was one of the first sent to me. As the patient was very ill when the treatment began, and was discharged cured, the case is one of great interest.

N. B., aged 18. Previous history of the patient is good. Habits of life—school girl. The present sickness dates from May, 1895. The mode of the invasion of the disease was as follows: Weakness, tired feeling, chilly sensations in back and cough. Loss of appetite and loss of flesh followed. Pain in the chest. Profuse night sweats. Increasing cough. Expectoration profuse from the beginning. Hurried respiration on least exertion.

I was called to see the patient on October 2d. Her temperature was then 104° in the evening, pulse 120, respiration 30 per minute. She had no appetite. Bowels very

loose, she never having less than six movements per day. Tongue very much coated. Her face had a hectic appearance. My later visits showed the temperature to be irregular and intermittent. She has all the physical signs of acute phthisis in the middle and upper lobes of the right lung.

At the request of her parents, made in spite of the statements that I did not believe I could do anything for her, I began treating the case. I prescribed the ordinary treatment of creosote, cod liver oil, phenacetine and digitalis, combined with exercise in the open air. As the least exertion brought severe attacks of coughing, it was very difficult for her to take exercise. For example, in a walk of 75 feet to the house of a neighbor the patient was forced to stop and hold on to the fence during a coughing spell. The symptoms mentioned above continued, and the patient became worse under the treatment described until October 26th, when I first secured some of your Aseptolin, and gave her a dose. From that date to the present time the history of the case, as taken from my case-book, is as follows:

October 26th. I gave 50 m. Aseptolin and sprayed the lungs with iodoform and ether.

October 27th. No change in symptoms. Temperature 104° the previous night. 60 m. Aseptolin and spray.

October 28th. The only change is the patient has noticed she did not cough quite as much as usual. I examined the sputa on the third day and found it loaded with bacilli tuberculosis. 80 m. Aseptolin and spray.

October 29th. Patient greatly improved. She slept from 9.30 p. m. to 8.30 a. m. She did not have nearly as much fever the night before. She had no night sweat. Her breathing is better after exertion and she can walk faster. Her appetite is greatly improved. Her bowels are in a better condition. They only moved three times in the past twenty-four hours. No albumen in the urine. 90 m. Aseptolin and spray.

October 30th. All symptoms slightly improved from yesterday. She has no pain in the chest. She has had three

good movements of the bowels since yesterday. (By "good" I mean not loose.) 100 m. Aseptolin and spray.

October 31st. No fever last night. She slept well. Her appetite is still better. Her breathing better after exertion. 100 m. Aseptolin.

November 1st. The symptoms still continue to improve. She has no fever, no night sweat and her cough is less. The patient has taken a walk of one mile, and has gained two pounds in weight.

November 2nd. Still improving. 100 m. Aseptolin and spray.

November 3rd. The patient's own words are: "I feel much better and more like myself." 100 m. Aseptolin and spray.

November 4th. The patient's own words are: "I have slept every night since October 28th, and do not raise nearly as much when I cough. I have had six meals since yesterday." 100 m. Aseptolin.

November 5th. All symptoms improved. I find on examination all physical signs are better. 100 m. Aseptolin.

November 7th. Still improving. The patient has gained three pounds since November 2nd, this being five pounds since the Aseptolin treatment was begun. I have this day examined the patient's sputa, and with great difficulty found a few bacilli tuberculosis. There is no albumen in the urine. 100 m. Aseptolin and spray.

November 9th. There is nothing to say from day to day but improvement.

The patient was discharged cured on November 23rd.

Dr. Brandt has verbally reported the following case to me:

Dr. W. H. Sherman, of Yonkers, had a patient to whom he called the attention of Dr. Brandt. The patient, a woman, was suffering from gangrene of the lung. A further and closer examination disclosed the fact that the right lung was dead, and that septic absorption was going on. The temperature of the patient varied from 104° to 105°. Dr. Brandt injected Aseptolin, and in twenty-four hours the

temperature had fallen to 100°. The injections were continued for nine days. The temperature fell on the third day to 99° and after that did not rise above 99.3°. The general condition, appetite, etc., improved greatly. At the end of the twenty-nine days the patient was discharged cured.

Another of Dr. Brandt's cases, as reported verbally to me, was as follows :

A woman in childbirth had been attended for three days by a midwife. Dr. Brandt was then called in, and he succeeded after a tedious and difficult operation in delivering the child. The next day the patient's temperature rose to 104° after a violent chill. Dr. Brandt on examination found the cervix badly lacerated, evidently by the finger nails of the midwife. There was a purulent discharge. Injections of 200 minims were followed by complete recovery.

The following extracts were taken from a few of the many letters I have received. They will be of interest to those studying the treatment.

Dr. C. S. Massle, Auburn, N. Y. : " Have used your Aseptolin for 22 days in the case of — with marked improvement, and with no discomfort to the patient, except a nervousness which I ascribe to the Aseptolin. The temperature has been reduced from 101 1-2 degrees F., A. M., 103 degrees F., P. M., to normal in the morning, and to 100 degrees F. in the evening."

Dr. George H. Bridgeman, Elizabeth, N. J. : " I regard several cases of malaria, which had for years resisted the most heroic treatments, as *cured* by one course of Aseptolin." The italic is Dr. Bridgeman's.

Dr. Robert Burns, Plymouth, N. H. : " I have tried Aseptolin in one case, that of a man suffering with advanced glandular tuberculosis of the neck. I had operated on him four or five weeks before, performing a radical operation. It was a bad pus case. Previous to the operation it discharged fully two ounces at each dressing. Up to the time of Aseptolin, the wound refused to heal over a portion of the surface. After using it, a marvellous change for the better took place, and yesterday, only ten days from the



first injection of Aseptolin, I removed all dressings, the wound having healed."

Dr. W. S. Garnsey, Gloversville, N. Y.: "About January 2nd you shipped me a box of Aseptolin to be used in the case of Mrs. G. S. I have faithfully used it, and also the ether and iodoform. Prior to the Aseptolin treatment her sputa was loaded with tubercle bacilli. She had some fever and night sweats as well as an aggravating cough. After the Aseptolin treatment was begun, the fever almost immediately ceased. The night sweats soon stopped and the cough diminished. After six weeks her sputa showed fever bacilli. She does not, however, get strong, and her pulse is uniformly above 90. She raises more sputa than before the Aseptolin, and she is short of breath."

Dr. Charles E. Griffin, Fair Haven, Vt.: "The two-ounce bottle of Aseptolin which you so kindly sent me a week ago has already saved one life, that of a little girl 12 years old who had la grippe and, finally, pneumonia in the lower lobe of the right lung and lower two-thirds of left lung. A week ago this morning, (February 21, 1896), her temperature was 104 2-5 degrees F., pulse 148, respiration 42, and everything I did to relieve these symptoms failed. The Aseptolin came on the 11:45 A. M. train, and at 2 P. M. I administered 20 minims into the abdominal parietes. There was not much change until next morning, when the temperature fell to 102 2-5 degrees F., respiration 34, pulse 130. I continued to give the Aseptolin every day at 2 P. M., but every day I did not think the child could possibly live to see another one. Nevertheless, I was mistaken, for on Wednesday, February 18th, the temperature fell to 99 1-5 degrees F., respiration 22, pulse 104, and to-day, February 21, she is doing nicely and will probably recover."

Dr. A. M. Hubbell, Haverhill, Mass.: "I have been using Aseptolin in a case of phthisis, which is not of long duration. I have tried the remedy for about three weeks, but so far I fail to see any improvement in the condition of the patient. The evening temperature is about 103 degrees F.,

and the pulse about 114, but I think the cough is slightly better."

Dr. W. H. Hall, Morris, N. Y. : "The case has decidedly improved in regard to night sweats, which have stopped under the persistent use of 150 M. Aseptolin per day. There has also been a decided improvement in temperature range and in circulation, but for the past two weeks the patient has had several hemorrhages. \* \* \* This case is a hard one, but I believe the Aseptolin has had a wonderful effect."

Dr. W. F. Price, Indio, Cal. : "I commenced the Aseptolin treatment February 3d, 1896. At that time the patient weighed 96 pounds, was much debilitated, with a temperature sub-normal in the morning, and from 101 to 102 degrees F. in the afternoon. I found the lungs affected throughout their whole extent, dulness in both apices, the right lung especially being ready to break down throughout. The expectoration not very profuse, but heavy and brownish yellow. Two or three days after commencing the treatment the cough and expectoration increased greatly, continued thus for a few days, and then gradually subsided, and for a week or more have been *nil*.

"The temperature is now (March 14th, 1896) normal, and has been so for ten days or more. The strength has very materially increased, and the weight is now 102 pounds, an increase of 6. The patient is taking air into all parts of the lungs, and the abnormal râles have decreased greatly. Urine normal. The patient sleeps well; has a fair appetite and fair digestion.

"The favorable progress of the case has been, as it seems to me, remarkable. The patient declares she is well. Of course, this is too enthusiastic; but she is most certainly greatly improved, and the prognosis seems favorable."

Dr. H. E. Stroud, Phoenix, Arizona : "I am now treating over thirty cases of consumption with your Aseptolin, and in some the improvement is little short of wonderful."

Dr. J. M. Hayes, Greenboro, N. C. : "I feel constrained to report to you the almost magical effects of your new treat-

ment for tuberculosis in my hands. In one of my cases the patient had been confined to bed for months with several large cavities in the left lung, and decided bronchitis in the right, temperature several degrees above normal all the time, complete anorexia, insomnia and great pain. Sputa loaded with tubercle bacilli. Indeed, I had told the husband that his wife was scheduled to die in May at latest.

"I followed your directions closely, and to-day (March 19, 1896), after two weeks of treatment with Aseptolin and a week since last hypodermatic (both vapor and spray having been continued), she has normal temperature, is free from pain, cough decidedly better, eats more than any other member of the family, sleeps well, and the cavities are almost quite dry. The bronchitis is better, and the lung is entirely well."

Dr. A. E. Roussel, Philadelphia, Pa.: "I take great pleasure in mentioning that my series of cases are, on the whole, doing remarkably well. One patient, who commenced treatment in December, may be said to be cured, there having been a total absence of tubercle bacilli in the last six examinations, and a gain of 9 pounds in weight. Another, a young girl, unless I am mistaken, will soon be in the same class."

I have spoken elsewhere of the failures with Aseptolin, which have been reported to me. One of the most conspicuous, and I may say one of the most disappointing, I have now to record.

Owing to an incautious talk with a reporter, an account of the experiments then going on with Aseptolin appeared in the newspapers long before I was ready to write anything. The matter was copied, and it brought me many letters from physicians who liked my theory—briefly as this was then given. Among others there came a letter from Dr. George L. Fitch, of San Francisco. Dr. Fitch was, and is, the physician in charge of the lazaretto in San Francisco, and the author of an article published in the *Medical Record*, before I heard from him, which had interested me intensely. Dr. Fitch had spent many years in Hawaii, studying leprosy

there, and his article was an example of the most scientific reasoning on the thesis of the tuberculous origin of leprosy.

When he wrote to me Dr. Fitch said he had seen the articles about Aseptolin, and had read everything with great interest. He was kind enough to say he was sufficiently interested in the theory to be willing to try the fluid in cases of leprosy under his charge.

Naturally, I was only too glad to send it to him. I had no literature at that time, but I wrote him a long letter giving the formula, the theory and the results up to date. I heard from him afterwards, but it was only the other day (March 22, 1896) that I received from him the results of his experiments. As will be seen, the Aseptolin was a complete failure in leprosy. Most certainly it will never be tried in the disease under the direction of a more competent observer.

Dr. Fitch writes (March 17, 1896): "I have tried the Aseptolin you were kind enough to send me most faithfully on two cases of leprosy—one a tubercular case and the other an anæsthetic, carrying the amount injected up to 200 M. daily, and keeping it there until I was convinced it was doing no good. At first I had great hopes, but the tubercular patient had a severe attack of leprous fever while the Aseptolin was being administered, and the other patient showed no effect whatever. It only adds another defeat to the many I have had with this wretched disease."

That I was disappointed when this letter came will easily be believed.

Dr. Fitch kindly ends his letter as follows: "But I am glad to say I have some good news to write. There were two ounces of Aseptolin left after I discontinued the injections in the leprous patients, and I have used this on a case of phthisis. You ought to see the patient. When she came to me she said she could not walk two blocks. Now she walks twenty blocks with ease. Her appetite is voracious. The dulness over the apices of the lungs is clearing up, and she is gaining in weight. Her cough has ceased, and I am confident of a complete cure."

Dr. T. H. Tupper, Harrington, Me. : "A young lady of eighteen, among my patients, developed a case of consumption and lost flesh. I put her on the Aseptolin treatment. The second day there was a natural operation of the bowels, the first for over a year. The urine became normal. Her appetite increased greatly, and to-day she is able to be up and is evidently gaining rapidly. There is a remarkable change for the better, one I can really call marvellous."

Dr. Frank A. Tillinghoch, Norwich, Conn. : "I have now three patients under treatment with Aseptolin. One thing is very noticeable, and that is, the appetite is good in 24 hours after the first injection, where there was complete anorexia before. Also, the digestion becomes better."

Dr. S. H. Muer, Denver, Colo. : "Having used Aseptolin for one month, I feel it my duty to inform you that up to date it has proved all that you claim for it. In every case that I have used it, the improvement of the patient's condition is wonderful. At present I am treating 14 patients in my private practice."

Dr. James B. Kennedy, Long Island City, N. Y. : "The patient I have been giving the Aseptolin to has been decidedly improved. He sleeps and eats much better, and his cough has lessened very much."

Dr. R. B. Burton, New York City. : "My patient seems to be getting better under the Aseptolin treatment."

Dr. Arthur C. Jacobson, Brooklyn, N. Y. : "I have had a case of incipient phthisis under treatment with Aseptolin for about a month, and take pleasure in testifying to its very gratifying results."

Dr. H. V. Dailey, Pekin, Ills. : "I have been using Aseptolin in a case of well developed phthisis, first stage. The patient had well marked symptoms and the microscope showed tubercle bacilli. The benefit is decided."

Dr. A. T. Scott, Milwaukee, Wis. : "I have had a busy day and nearly all Aseptolin. A case of gonorrhoea reported on Tuesday night, and I gave thorough injections of Aseptolin, following it up with the ether and iodoform spray. The discharge was full and typical. When the patient called the

next night, there was scarcely a trace of discharge, and now, after 36 hours and three treatments, there is none at all.

"I have used Aseptolin in every germ disease of which I have had a case, and so far with complete satisfaction to myself.

"My patient, Miss S., weighed 79 pounds when I began the treatment, and although I have not weighed her since, there will be an increase to report. The diarrhoea disappeared within 48 hours after the first injection. It has been persistent for seven months. The movements are now normal. No night sweats. The appetite has changed from a repugnance to all food to a ravenous condition which wakes her about 3 30 A. M. She then drinks a large glass of equal parts of cream and milk, and goes to sleep. She has not slept well for over a year. She now sleeps from 8 to 11 hours in the 24 hours, and rests while doing so unless hungry.

"She eats full three meals a day. At 3 P. M. and bedtime, she drinks an egg-nog, composed of one egg and one-half pint of rich thick cream; sometimes she takes another at midnight. She is perceptibly gaining in flesh, and her right lung is increasing up rapidly. We have done this in one week with Aseptolin.

"She has gained so rapidly, and is doing so well, that a gentleman here in the city who has watched the case has sent to California for a brother of his, who is there for phthisis, to come here at once to put himself under your treatment and under my care. New cases come in daily from both city and country, and all so far treated show improvement."

Dr. W. W. Hall, Morris, N. Y.: "The case I wrote about some time ago has decidedly improved. The night sweats have ceased. There has also been decided improvement in the temperature range and the circulation. During the past two weeks there have been frequent hemorrhages, and I have increased the dosage. This case is a hard one, but I do believe the medicine has had a won-

derful effect, considering his condition at commencement of treatment."

Dr. J. A. Pulgram, St. Louis, Mo.: "I have used your Aseptolin on a patient with splendid effect."

Dr. E. E. Buvinger, Pittsburg, Pa.: "I have tried the Aseptolin on a tubercular patient, and the results so far are very satisfactory. His night sweats have ceased, his cough has lessened, and the 'hectic' fever has entirely disappeared. The patient was confined to the bed when the treatment began, and as he is very weak, with large cavities in the lungs, ultimate recovery is not looked for. The very persistent and troublesome insomnia ceased with the first injection."

Dr. F. C. Robinson, Wyand, Ills.: "I have been using Aseptolin on a young lady for seven days. She is 26 years old. When I began [the temperature was 102½ degrees to 104½ degrees, pulse 148, respiration 36. There was a great deal of cough at night, with frequent night sweats. To-day (1 week) her temperature is 102 degrees, pulse 134 when sitting up, and 127 when lying down, respiration 26. There is very little cough at night, and no night sweats."

Dr. M. F. Stults, Wiota, Iowa: "I gave Aseptolin to a lady having a two months' old baby. She had been having chills daily, with fever and night sweats, with a severe chronic bronchitis of the right lung, and with symptoms pointing strongly to tuberculosis. She also had menorrhagia, which my remedy had done but little to relieve. After the treatment began there were no chills. The menorrhagia disappeared. The pain in the right side ceased, the cough improved, the appetite returned, and the fever and night sweats decreased."

Dr. S. B. Anderson, Denver, Colo.: "I have been treating two cases during the past 15 or 20 days with Aseptolin. One patient claims to be well, and declines to take further treatment; the other is very much improved in every way, and is now very hopeful."

Dr. J. R. Davidson, South Bethlehem, N. Y.: "Am

using Aseptolin in a case where I am much pleased with it so far."

Dr. W. W. Sharp, New Douglass, Ills.: "I have tested your Aseptolin to a limited extent:

"CASE 1.—Gave a single dose of 50 M. to a patient suffering from a malady diagnosed as septicæmia by myself and another experienced practitioner. The patient had lately been delivered. Results—complete cure, although the patient complained much of the pain caused by the injection.

"CASE 2.—I have given several injections to a patient suffering from what I believe to be a tubercular disease of the mesenteric glands, with marked improvement of the patient's condition."

Dr. Urban G. Mease, Warren, Pa.: "The symptoms were all very bad. Temperature 104 degrees, pulse 120, respiration 36. Dulness under right clavicle. Expectoration very profuse. I diagnosed catarrhal consumption. He is hungry most of the time, and lives on fluids, cream, eggs, etc. His symptoms were all very much improved after the second injection, and he claims to feel much stronger and better in every way. Temperature normal, respiration 24, and slept well after first treatment.

"The patient you thought too old to receive much benefit, is improving very fast, and is the remark of the town."

Dr. J. P. Smallwood, Coeburn, Wise Co., Va.: "The Aseptolin has been faithfully tried in a well marked case of incipient tuberculosis of the lungs complicated with asthma. There has been decided improvement in the case, and since the use of Aseptolin there has been no recurrence of the asthma. The patient sleeps and eats well, gaining in flesh and strength daily. I am much pleased with the remedy."

Dr. A. M. Green, Anacostia, D. C.: "I have been using Aseptolin for a month, and I am experiencing decided benefit from it. I am stronger, feel better, cough and expectorate less, and am gaining a little in weight."

Dr. T. F. Sprague, Woodstock, New Brunswick.: "My patient soon began to look better and to feel better after using Aseptolin."



Dr. T. S. Ayers, Newark, N. J.: "I am using the Aseptolin with satisfactory results so far."

Dr. S. G. Bittick, Ringgold, Tex.: "Dr. Ferris, my friend in a neighboring town, reports success with your Aseptolin, and I wish to get some of it."

Dr. Nelson Borst, Poughkeepsie, N. Y.: "My patient gained  $2\frac{1}{2}$  pounds last week; the appetite has improved, the cough has very much lessened, and the patient feels a great deal better."

Dr. T. H. Borton, Plymouth, Ind.: "Out of a number of cases we have tried, only one has been unsatisfactory. Aseptolin has far surpassed our most sanguine expectations."

Dr. S. C. Collins, Nashua, N. H.: "I had intended long since to have written you of the wonderful results of Aseptolin in my patient, suffering from malaria of long standing. Everybody in the town knew her condition, and her remarkable recovery has made Aseptolin famous in this neighborhood. Every leading physician in town is using it to-day."

Dr. Thos. K. Cruse, Wappingers Falls, N. Y.: "The Aseptolin sent me has yielded good effects so far. Please send me six ounces more."

Dr. H. R. Dimock, New York City: "One case in particular, a young man 25 years old, came to me 2 weeks ago, giving a history of lung trouble of 5 months' standing, with continual loss of weight, and all the other symptoms incident to tuberculosis. Examination proved the affection to exist in the apex of the right lung. Treatment with Aseptolin has apparently retarded the progress of the disease. His appetite is much improved, cough less, sleeps better and has gained 2 pounds in weight. The afternoon exacerbation of temperature which had, previous to, and during the first few days of treatment, registered from 100 to 103 degrees F., is now normal. I think the results thus far obtained will permit the prognosis of ultimate recovery in this case."

"In a second case in which I used Aseptolin, the patient

was in the last stages of phthisis, large cavities existing in both lungs, and was hardly able to sit up. It was evident from a glance that only a few days were left to him. Aseptolin seemed to lessen the intense dyspnoea from which the patient suffered, which was all that could be hoped for."

Dr. W. C. Fawdrey, Lorraine, N. Y.: "Aseptolin is working well on my patient. No unpleasant features so far."

Dr. J. W. King, Akron, N. Y.: "The only improvement from Aseptolin that I can see, is that the patient feels stronger."

Dr. H. M. McDonald, Pueblo, Colo.: "My first patient gained five pounds in the first week. I used 60 M., gradually increased to 100, in a dose. The cough and expectoration decreased. The spirits of the patient became buoyant. In the second week all the apparent benefit of the first week was continued, and a gain of 1 pound was noted. I have now three patients, and all of them make the most astonishing reports in the matter that I ever heard from patients affected with such disease. Less cough, less expectoration, and a feeling of buoyancy. I have not noted any deleterious effects from the use of Aseptolin. I simply wish to add that after 16 days of trial with one case, and a much shorter trial with two other cases, I am encouraged to persevere."

Dr. A. S. Randenbush, Reading, Pa.: "The patient sleeps better, his appetite has improved, the liver and kidneys are more active."

Dr. M. Rockman, Missoula, Mont.: "That it is the best remedy for tuberculosis yet discovered, there can be no question. I will send a full report of the case."

Dr. J. B. Shupe, Westernport, Md.: "I have been using the Aseptolin on a case very far advanced in tuberculosis, and I am happy to inform you of the fact that he is improving rapidly."

Dr. J. J. Smith, LaCrosse, Wis.: "I have been using it on a consumptive patient and on one having rheumatism. The temperature of the rheumatic before using was 100 4/5

degrees, but on the second day of treatment it fell to 97 2/5 degrees F., and has remained there. The catarrhal symptoms and the chilly sensations have disappeared. The appetite improved as the pain lessened. I believe, if the treatment be continued long enough, it will cure the case."

Dr. E. T. Smith, Buffalo, N. Y.: "The Aseptolin has done more good than any treatment I ever used in tuberculosis. Please send more at once."

Dr. N. Wayt, Staunton, Va.: "The patient has improved."

Dr. J. R. Hundt, Laurel, Md.: "My patient is a young lady, aged 21 years, who has had a severe cough for the past year. In October, 1895, she had a severe attack of typhoid fever, lasting about eight weeks. Two members of her family died with the disease. She continued to cough, with profuse expectoration of a muco-purulent substance. In December, 1895, and January, 1896, she suffered from what was diagnosed to be acute pleurisy, supposed to be tubercular in character; for, although there was no microscopic examination, nor development of tubercles, yet every symptom pointed that way. General weakness of left side and emaciation, with increased expectoration, followed her recovery from these attacks. My diagnosis was tuberculosis.

In March I began giving her Aseptolin, and in the course of a few days the cough became slight, the expectoration diminished, and now, after 14 injections, she seems to be gaining in every way. Her respiration has been reduced from 34 to 20, pulse from 120 to 86; her side seems as strong as ever, and the patient has great faith in the treatment."

Dr. B. O. Watkins, Kingston, Tenn.: "I have been using Aseptolin with success."

Dr. F. C. Herr, Ottawa, Kans.: "I have used the Aseptolin on a patient who for years has been suffering from malarial infection. He is certainly much improved in health. I have a number of cases of incipient tuberculosis that I propose to test with Aseptolin."

Dr. J. H. Reed, Chicago, Ills.: "On March 5, 1896, C.

D. K. presented himself at my office suffering with tuberculosis, deep seated hacking cough, voice nearly gone, and kidney complications. I put the patient under immediate treatment, rigid dietetics, and careful watching, making urine analysis daily at 10 A. M., and hoping day after day to reach favorable conditions so I could proceed with your treatment. On April 8th my patient reached a point which justified my beginning with Aseptolin. I gave 50 M. and increased until now (April 14) I give 100 M. The progress of the case is simply wonderful. Dr. A. W. Hawley, who is professionally a warm friend of mine, has watched the case with me, and he is as enthusiastic as I am. I will gladly send you history and case note with treatment, day by day, in this case."

Dr. W. L. Allen, Greenbush: "In the case of Mrs. C. C. L., with cancer of the uterus, I have given 180 M. of Aseptolin for four weeks, giving injections every other day. The urine shows a slightly decreased specific gravity, but no albumen, sugar or casts. The catamenia, which has occurred once, lasted only three days, while the usual habit was one week. During the winter it was so severe and constant as to require tampon. Leucorrhœa has not increased. One week before menstruation it almost completely stopped, and the nurse tells me one guard will do for from 12 to 16 hours, when it used to require 3 or 4 at the same time. There has been no enlargement of the abdomen, and the pain has been so slight that 2½ grains of 'Tullys' relieved her. She has sat up during the past week from three to five hours a day. Nausea is almost constantly present, although I find this is relieved by food. The pulse averages 72; in health it was never over 60 to 66. The discharge was never offensive, and the nausea was present before the Aseptolin was used, and is no more now than then.

"I have also used Aseptolin in a case of prolonged convalescence of malarial typhoid, in place of whiskey, as the patient has had a catarrhal cough for some time. He is improving, I think I can say positively."

Dr. F. W. Bradbury, Pinehurst, N. C. : "All cases in which I have used Aseptolin have been benefited in some way."

Dr. George H. Aiken, Fresno, Cal. : "I am using Aseptolin with marked success."

Dr. W. T. Hall, Tarentum, Pa. : "I have used Aseptolin in one case with marked results."

Dr. T. N. Lownsdale, St. Bernice, Ind. : "I have used Aseptolin on W. C. Taylor, aged 60 yrs., suffering for years from chronic rheumatism, indigestion and hemorrhoids. Last January he had a severe hemorrhage which has been repeated since. He has had constant cough, expectoration of muco-purulent sputa, rapid emaciation and, in fact, was going down rapidly with tuberculosis pulmonalis. On April 20, 1896, with an ordinary hypodermatic syringe I gave him two injections, which I repeated daily until three days ago, when I increased the dose to three. There has been constant improvement so far. This morning he tells me he has a good appetite. He is free from rheumatism, and the hemorrhoids have ceased to trouble him. He has been compelled to use a sedative all winter in order to sleep, but for several nights he has taken nothing, yet sleeps well and rises refreshed. His cough is nil."

Dr. C. E. Nelson, Phillipsburg, Kan. : "I tried Aseptolin on two cases, one acute and the other chronic tuberculosis. The acute case was one following pneumonia with solidified lung, and two months of purulent expectoration and high temperature, 102° to 103° F., pulse 140, and great emaciation. The stomach refused all nourishment. The patient has taken the treatment for ten days. Her appetite is quite good; temperature varies from 97½° to 98½° F.; respiration 26; pulse 108. I think she is on the road to recovery. I have not noticed any improvement in the chronic case yet, nor have I noticed any unfavorable symptoms. I think your Aseptolin the most logical treatment, and as near a specific for phthisis as it possible to get."

Dr. S. B. Sims, Frankfort, Ind. : "Having tested a

sample bottle of Aseptolin on a case of tuberculosis with very flattering results, I now write to order a stock of the fluid."

Dr. W. G. E. Flanders, Burlington, Vt.: "I have used five dozen of Aseptolin with very good results."

Dr. J. C. Clay, Westminster, Cal.: "My patient is doing finely on the Aseptolin treatment."

As the greatest improvement is seen during the first few weeks, the foregoing letters were selected from the mass of correspondence with the view of showing the common experience of many men.

From the reports from the various druggists handling Aseptolin and from the records of those applying for samples, the fluid is in the hands of between seven and eight thousand physicians. I have received reports to date (May 15, 1896) however, of a little over six hundred cases of phthisis, and while I know of at least a thousand more I cannot tabulate them because my knowledge comes from the patient and not from the attending physician. Right here I can say that practitioners using Aseptolin will confer a great favor on me if they will report results no matter what these may be. I am always glad to correspond with physicians about their cases, although I must repeat my refusal to give patients advice.

The reported cases of tuberculosis may be separated as follows:

Discharged cured, - - - - -	61
Will be discharged cured, in the opinion of the attending physician, - - - - -	142
Greatly improved but too soon for prognosis, -	53
Improved, - - - - -	257
Died, - - - - -	21
Improvement temporary only, - - - - -	91
No result, - - - - -	7

These figures, if I could take into account the letters from patients would be greatly increased. This, however, is impossible, as medical statistics can only rest on reports from medical men.

It is necessary I should say a few words on the length of time required in the Aseptolin treatment. This, of course, varies greatly in the different diseases. In septic cases the temperature is often reduced to normal within twenty-four hours, but the subsequent treatment depends on the time necessary to cure or remove the cause of septic absorption. In cases of La Grippe, no patient has yet been treated more than three days without a complete recovery. The treatment in malaria usually takes twenty-eight days to complete.

The time necessary in cases of laryngeal tuberculosis varies enormously. There have been cases of the disease in an acute form which were discharged cured in ninety days, and I have a case now under treatment in the seventh month. The fact of the matter is that phthisis is a difficult enemy to drive out of its entrenchments, and a long and hard fight is before the physician who attempts this. The usual effect of the Aseptolin, the ether and iodoform spray and the phenol inhalations may be not unfairly described as follows :

During the first week improvement is usually noted in the night sweats, which become less, even if they do not cease, and in the tubercular diarrhoea, which disappears, if it has been present as a symptom. The patient becomes buoyant and hopeful in spirits. The appetite increases and the sleep is better. Often the cough and expectoration increases considerably. During the second week all improvement noted in the first is more apparent. The night sweats cease, the appetite is often ravenous and the sleep is very much better. During this week the cough and expectoration diminish greatly. The buoyancy and good spirits of the patient increase also. In the third week the improvement continues, and the patient generally declares there is a great feeling of strength. In this week the increase of weight is usually noted. During the fourth week, unless there be nausea, the patient holds all the gain made so far. Should nausea appear, or albumen in the urine, both being rare complications, the treatment must

be suspended for a few days, and there is a slight falling off. Often in this week the patient complains of great soreness in the field of injection from the effects of the needle. This may be avoided by changing the site of the injection.

After the first month no one week will show the improvement noted during any of the first four. There will be, however, a steady if slow gain, to be measured by months rather than weeks, and this may be looked for until the patient is discharged cured.

From the foregoing reports from a number of observers on their cases, from the diversity of the cases themselves, and from the results, favorable or otherwise, I think even conservative physicians will grant these conclusions :

First. That in the treatment of malaria and la grippe Aseptolin is a specific.

Second. That in cases of tubercular disease, the Aseptolin treatment is not only rational in theory and practice, but that the results show a larger per cent. of cures, and a more uniform improvement in the condition of the patients than can be credited to any other treatment at present known.

Aseptolin is not a specific for consumption in any sense of the word. It affords a scientific method of fighting the disease, because it is an advance along the line indicated by nature herself, and because it is an application to the germs within the body, of an agent long applied for the destruction of these, when cultivated or produced in our laboratories. Furthermore, identical results follow in both cases : the growth and development of the germs inhibited.

There are two dangers, one of which is inseparable from any new treatment, to be foreseen as connected with this. The first lies in the manufacture.

There have been a number of imitations of Aseptolin placed before the public. These have been tested in my laboratory chemically and microscopically, and have been injected into guinea pigs with equal doses of Aseptolin injected into other guinea pigs at the same time for control



experiment. Not one of these fluids is Aseptolin. Without an exception they contain substances not to be found in the fluid as prepared in my laboratory. Moreover, the guinea pigs injected with them have died, being attacked first by the convulsions characteristic of carbolic acid poisoning, then sinking into coma followed by death. At the same time the guinea pigs injected with an equal amount of Aseptolin have shown no ill effects whatever.

Nor is this all. A patient who had been taking the Aseptolin treatment for about two months was reported to me by the attending physician as having developed several abscesses. I was naturally not a little surprised, because with records of hundreds of patients under treatment no such result had been heard of. At first I supposed the patient must either have some personal idiosyncrasy, such as a complication of another disease, or else that some gross carelessness in the care of the needle was the cause. What I could not understand was the fact that in all previous reports of this case, there had been no mention of abscesses, the patient having shown perfect tolerance of the fluid. Then the idea struck me that possibly, in spite of all the precautions and continual inspections of the fluid in my laboratory, a bottle of fluid having toxic properties might have been shipped away. I therefore wrote at once asking that the bottle be sent to me.

One glance at it when it came told the story. It was not Aseptolin at all, although it was so labeled. The bottle was about half-full, and when the fluid in it was injected into a guinea pig, the animal died. It appeared that the attending physician, having need of a new supply of Aseptolin, had ordered it from the local druggist and he, in turn, had procured some bottles of one of the imitations with the results stated. I sent a box of Aseptolin on at once, and there were no more abscesses, the genuine fluid favorably affecting those produced by the counterfeit.

This is the danger I foresaw at the first, and which I endeavored to guard against by warning those who might be disposed to make it. The great difficulty in the way of

those who make the imitations is, they have not the experience and can never know what they are putting out. It should be remembered that many men in the past have tried to inject phenol into the blood only to find carbolic acid poisoning follow, and that until Aseptolin was devised this practice was found to be impracticable. There is, therefore, nothing new about the results following the use of the imitations of Aseptolin. These imitations have consisted of nothing but mechanical mixtures of carbolic acid and water.

It is needless for me to say neither I nor the Aseptolin treatment can be held responsible for the results of injecting such fraudulent products.

In my laboratory the precautions taken are most elaborate. Every drop of the Aseptolin is inspected by at least three persons after it is ready for the bottles. Besides, at every step in the process experienced eyes are watching it, ready to detect the least sign of failure. Should one appear, not only is the whole lot thrown away, but all apparatus with which it came in contact is taken apart, washed thoroughly and boiled before being used again. After the Aseptolin is bottled, it is again inspected by at least two persons before the labels and seals are put on. Then the bottles are allowed to stand twenty-four hours, when they are again inspected before being packed.

Of course, this ceaseless vigilance, these many inspections, are by no means pleasant. They are not only expensive, because they take time, but they are tedious to a degree. Yet, they are imperatively necessary. All physicians know what are the toxic effects of carbolic acid; if not by actual experience in their practice, at least in theory. I have found, by experiments on guinea pigs, that this fluid, if improperly made, is extremely toxic in its effects. I would not dare to let any of it go out, were I not absolutely certain it was right. When it is right, the results of many thousand injections have shown, it is perfectly harmless if properly used. When it is not right, the dead guinea pigs were proof of its power.

It is for this reason that I have taken steps to protect the product of my laboratory. It is for this reason, too, that I spend many hours a day in the laboratory itself. I have, in the assistant who has been with me from the first, a man in whom I have absolute confidence, and he has to help him one of the best chemists I know. With these men on guard, in addition to myself, the profession can be certain of what they are giving to their patients. In my opinion, the profession have a right to these safeguards at my hands, and they may be sure the precautions will be kept up.

For the Aseptolin itself, made in my laboratory and used according to my directions, I am responsible, but I am not responsible for any evil results which may follow the use of a fluid made anywhere else. Nor can such fluid be called Aseptolin. In no other way can I make the members of the profession who approve of my treatment, and desire to use it on their patients, safe. I can imagine nothing that would cause me so much sorrow as to know that some brother physician, relying on the reports of those who have used the fluid, had injected what he believed to be Aseptolin, only to see his patient die.

The second danger which I foresee, and one which is common to all new remedies or methods of treatment, is the improper use of Aseptolin. One such case has been reported to me. The fluid was given to the patient, a child, by the mouth, in place of being injected hypodermatically, and with disastrous results. It was this case which caused me to place the caution on the label, "Never give this by the mouth."

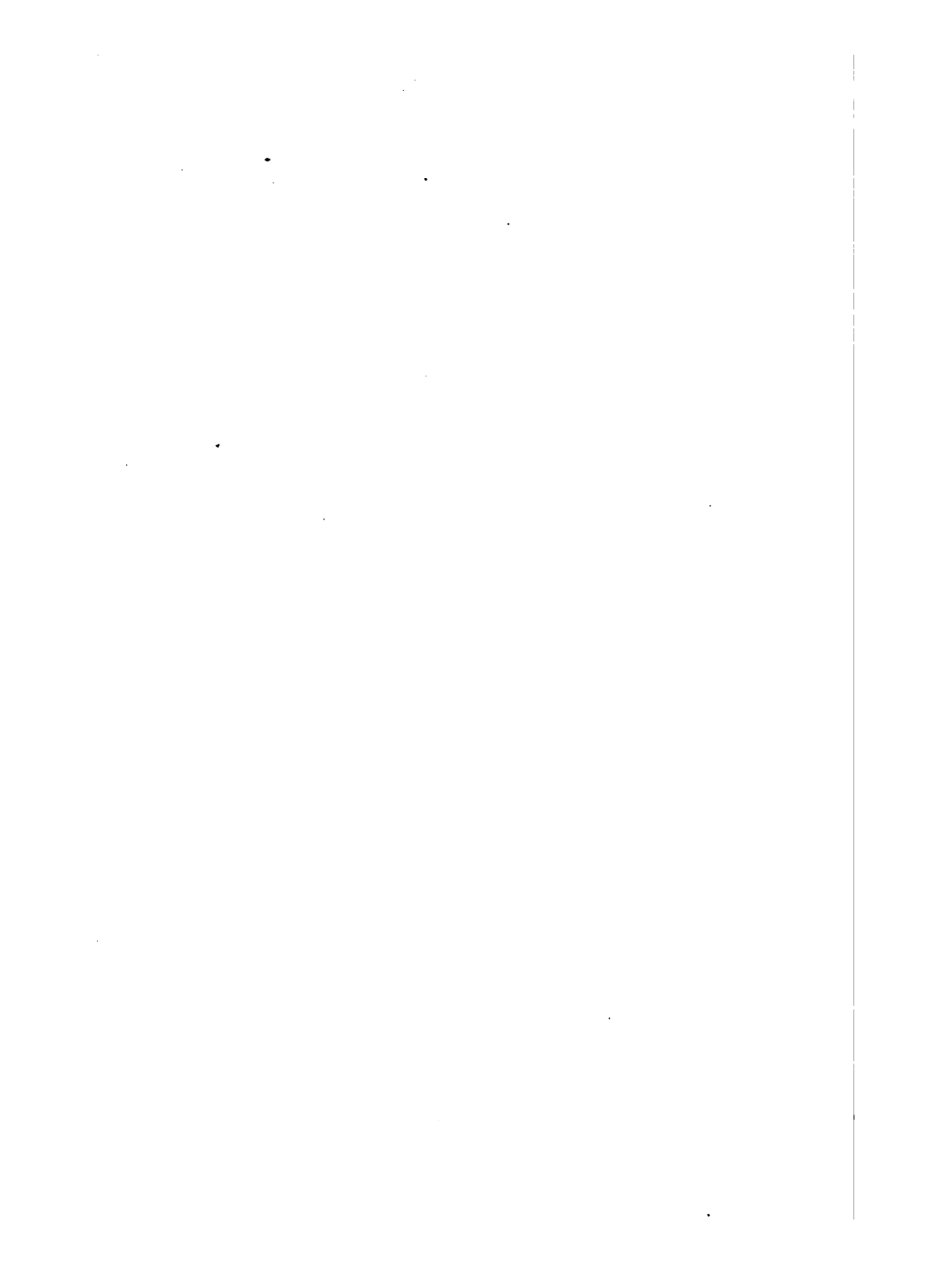
As in all professions, so in that of medicine, there are ignorant, and, what is almost worse, stupid men. It is a characteristic of the class to think they know more than others. A corollary to this, is the idea they all have, that some method devised by them is as good, if not better, than that which has been given to them as being right.

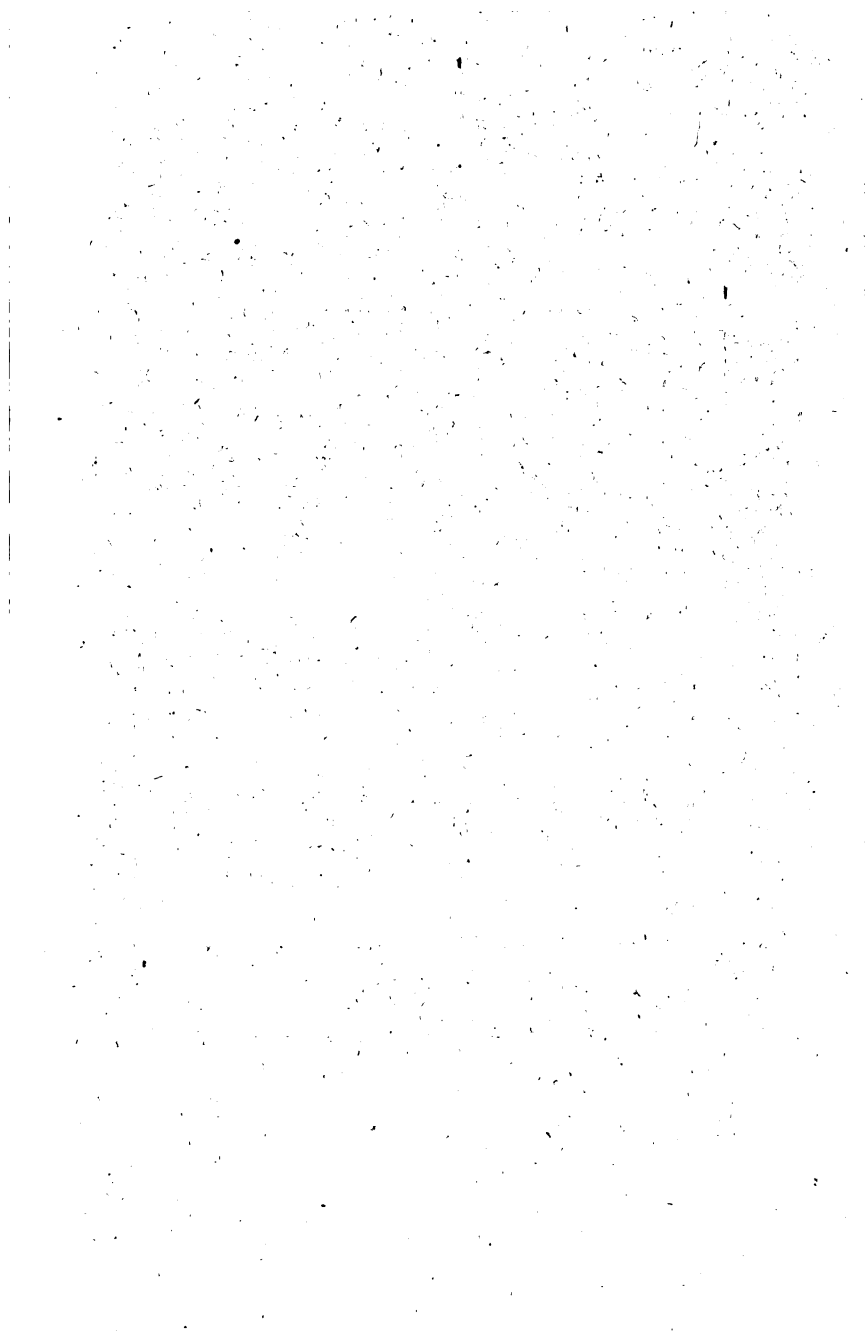
There is only one way to use the Aseptolin; that which I have given in my dosage circular. Moreover, it should be

used in the amounts stated. I have tried about every conceivable experiment with it, not only on guinea pigs, but on myself and others, and I know whereof I speak. Not only is this true of the Aseptolin, but it is true of my formulated treatment of phthisis. I have been amazed at the number of men who, in conversation or correspondence, have told me they had neglected the spray. Amazed, because, to my mind, the spray is of great importance, and I am unable to understand how a man can regard it as being of little, if any. Yet, the fact remains, a number have so looked on it. The same remark might be made as to other details of the treatment. The inhalations of vapor, the attention to diet, the exercise, when this is possible—all play their parts in bringing the desired result of cure, and neither can be safely overlooked.

So far I have been much struck by the different measures of success obtained by the physicians who have been using the Aseptolin. Investigation has always shown that those who were the most successful were those who followed the full treatment most carefully. As Dr. Balch, of Albany, said to me, in speaking of the matter: "The Aseptolin is undoubtedly the greatest curative agent in tuberculosis of which we have any knowledge, but it is because this is true that in the treatment of the cases we must exercise such extreme care. We are using a powerful remedy, attacking the disease as we have never been able to attack it before. Because of this, because we are working a revolution in the patient, we must watch with the greatest vigilance, and must support the Aseptolin with every aid in our power. Especially must we watch the nutrition and keep up the strength." This sums up my own views exactly, and is valuable as coming from a physician who has been very successful with Aseptolin.

There are men in the profession who will exercise this vigilance and give this minute attention, and there are others who will not. Those who give it will be successful far above their fellows, and will naturally get the greater number of patients. This is a matter which will adjust itself in time. The way is open to any physician to travel if he will, and the directions are not hard to follow.





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